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GRAND FORKS - EAST GRAND FORKS URBAN WATER RESOURCES STUDY, COM--ETC(U)
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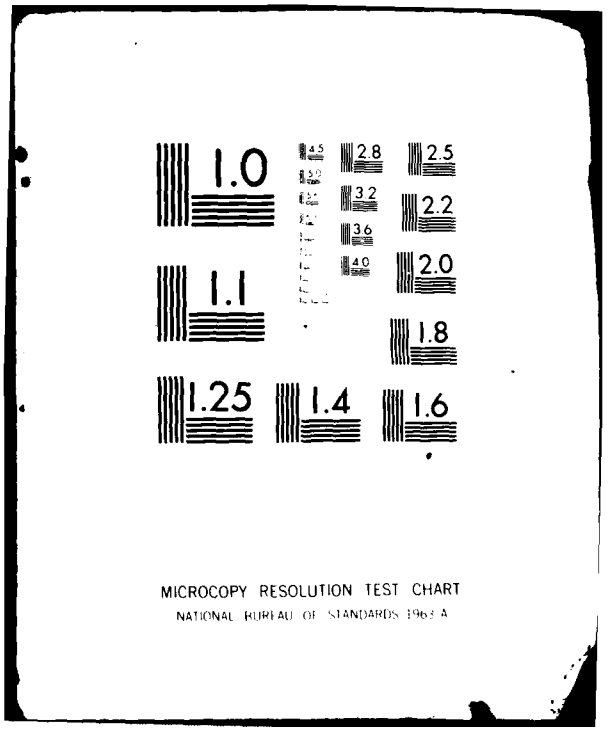
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GRAND FORKS – EAST GRAND FORKS URBAN WATER RESOURCES STUDY

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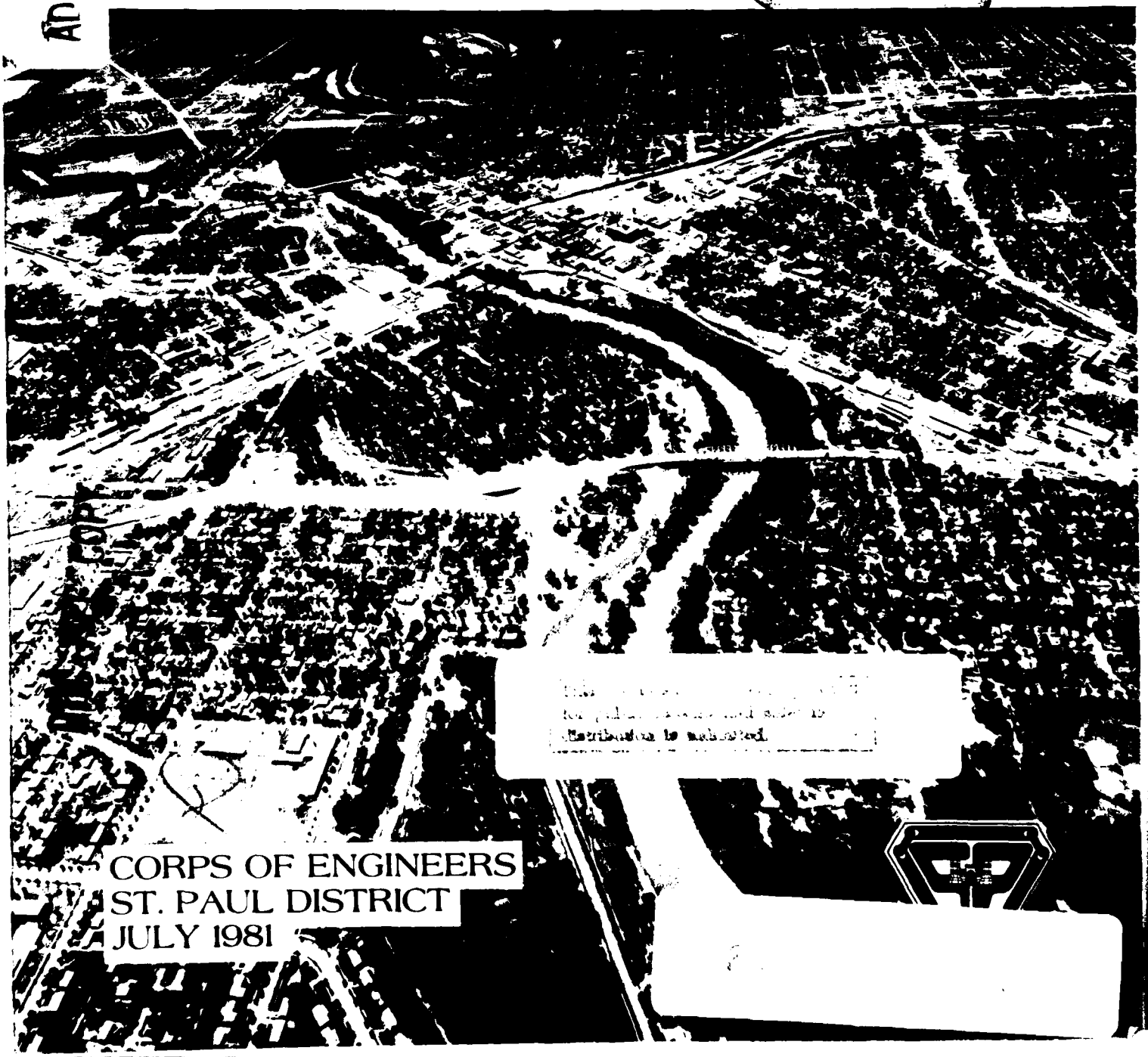
COMMENTS APPENDIX



CORPS OF ENGINEERS
ST. PAUL DISTRICT
JULY 1981

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The goal of the Corps of Engineers Urban Study Program is to provide planning assistance to local interests in a variety of water resource areas, some not within traditional Corps areas of responsibility. The St. Paul District conducted the Grand Forks-East Grand Forks (GF/EGF) Urban Water Resources Study which was a cooperative effort amoung local, state and federal agencies. Primary attention was given to flood control, water supply and wastewater management; supporting investigations addressed recreation and energy conservation.

The GF/EGF urban study report consists of ten documents:

Summary report
Background Information Appendix
Plan Formulation Appendix
Water Supply Appendix
Wastewater Management Appendix
Flood Control and Urban Drainage Appendix
Flood Emergency Plan for Grand Forks, North Dakota
City of East Grand Forks, Minnesota, Civil Defense Flood Fight Plan
Energy Conservation and Recreation Appendix/ Public Involvement Appendix
Comments Appendix

Flood control studies showed that the East Grand Forks levee project authorized in 1953, but not constructed, still was economically feasible and recommended further study under the Corps' postauthorization program. Grand Forks flood control studies found four measures which qualified for further study and possible implementation under the Corps' Small Projects Continuing Authority. An urban drainage master plan proposed for the developing fringe areas around Grand Forks would require future developments to incorporate ponding areas to temporarilty store runoff to limit peak discharges, to those that occur under existing land conditions.

Flood emergency plans were developed jointly with both cities to improve their flood fight preparedness and effectiveness. Manuals, narrated slide programs and pamphlets were developed which covered: flood fight organizations and headquarters; responsibilities of local, state and federal agencies; preflood, flood fight and postflood operations; emergency evacuation plans; and citizen self-help measures.

Regarding water supply, a low-flow study of drought flows on the Red and Red Lake Rivers found that river flow, plus storage provided by the cities' low-head dams, would satisfy 2030 demands during a 50-year drought. The uncertain future of the Garrison Diversion Project made it an unsatisfactory alternative water source. Local aquifers were unsuitable because of inadequate recharge rates. The most economical treatment and supply alternative would be for the two cities to develop a combine system in 2005. A water conservation program was proposed which could reduce demand and costs. A five-stage drought emergency plan of action was developed to cope with drought conditions more severe than the 50-year design event.

The study concluded that separate wastewater treatment facilities based on lagoon systems were the most cost-effective means of handling major point sources through 2030. However, if "zero dischage" criteria were promulgated the large land areas needed for lagoon effluent disposal could make advance mechanical treatment attractive.

Overflows from Grand Forks' combined sewers into the Red River, which is the city's drinking water source, were the most serious problems. The study's finding that the most cost-effective solution was sewer separation was accepted by the EPA and the North Dakota State Department of Health, making the city eligible for Federal financial assistance.

PREFACE

The Corps of Engineers Urban Study Program is aimed at providing planning assistance to local interests in a variety of water and related land resource areas, including water supply, wastewater management, flood control, navigation, shoreline erosion, and recreation. In areas of traditional Corps responsibility (such as flood control), the Corps may implement and construct projects shown feasible in the urban study. In other areas (such as wastewater management), Corps involvement carries only through the planning stage; findings are turned over to local interests for incorporation into their broad urban comprehensive planning effort. Implementation is at the discretion of local interests in conjunction with appropriate State and Federal agencies.

The St. Paul District, Corps of Engineers, conducted the Grand Forks-East Grand Forks (GF/EGF) Urban Water Resources Study, which was a cooperative effort among local, State, and Federal agencies. The GF/EGF urban study spanned a time of transition in the Corps' urban study program. In mid-1978, directives were issued deleting the third and last stage of urban studies. At that time, the second stage of the GF/EGF urban study was nearing completion, and commitments for stage 3 studies had been made to local interests and involved State and Federal agencies. Therefore, the GF/EGF urban study was allowed to proceed to stage 3.

During the first stage, the 14-township study area was selected, broad topical problems to be addressed (water supply, wastewater management, and flood control) were identified, and a "plan of study" was developed. The plan of study outlined the general approach the study would follow. During stage 2, the topical problems were broken down into explicit problem areas. Investigators formulated a broad array of alternatives to resolve the study area's problems. The alternatives were evaluated to eliminate those which were not suitable or cost effective. The stage 3 study examined in detail those alternatives that passed the stage 2 screening. Alternatives were reassessed to determine their respective cost effectiveness and environmental/social impacts.

This particular document is 1 of 11 constituting the GF/EGF urban study report:

Summary Report
Background Information Appendix
Plan Formulation Appendix
Water Supply Appendix
Wastewater Management Appendix
Flood Control and Urban Drainage Appendix
Flood Emergency Plan for Grand Forks, North Dakota
City of East Grand Forks, Minnesota, Civil Defense Flood Fight Plan
Energy Conservation and Recreation Appendix
Public Involvement Appendix
Comments Appendix

COMMENTS APPENDIX

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COMMENTS APPENDIX

During the course of the Grand Forks-East Grand Forks Urban Study, various groups, agencies, individuals, and special interests were given the opportunity to review and comment on draft reports related to the urban study. The comments were then reviewed by the Corps and incorporated into the final reports as appropriate.

This appendix contains letters of comment from 1976 to 1980. The letters are arranged in chronological order with major comments indicated by number. The Corps responses are shown with the corresponding comment number.

Minnesota Pollution Control Agency

(612) 296-7241
June 14, 1976

Mr. Dave Haumersen
Chief, Urban Studies
St. Paul District, Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Mr. Haumersen:

This letter is in response to Colonel Gay's letter (NCSED-PB) of May 26 and our meeting of June 10 regarding the wastewater portion of the proposed Urban Study for the Grand Forks-East Grand Forks area. The POS for the study gives several reasons why wastewater management should be investigated. We have a number of reservations with these reasons, which are as follows:

1. On page 24 the POS states: "The lagoon apparently meets present state standards but will not comply with 1977 or 1983 effluent standards." In fact, the pond system meets all federal as well as all state standards; there is no difference between the present state standards and 1977 or 1983 requirements. **1**

2. On page 34 the POS states: "East Grand Forks has experienced increased use of existing wastewater facilities at peak demand periods during the summer and has approached design flow." Monthly operating reports submitted to the MPCA from October, 1974 to April, 1976 do not show any such peak flows during the summer months. In fact, summer month flows have been less than the yearly average flow. **2**

3. On page 34 the POS states immediately following the above: "This increased demand on existing facilities is primarily a result of increased industrial growth in the city." Our records do not document any noticeable effects on wastewater flow due to any growth since mid-1973. **3**

1935 West County Road 82, Roseville, Minnesota 55113
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ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

1. Final version of the plan of study, September 1976, was revised to reflect comment. (See page 26 of the plan of study.)

2. Comment noted. Original text was retained on the basis of subsequent coordination with the MPCA and East Grand Forks.

3. See response 2.

4. On page 34 the POS states immediately following the above: "A reevaluation of existing facilities is necessary to provide East Grand Forks with a facilities plan and related information as discussed in the Grand Forks facilities plan." In contrast to the analysis given in the POS, the Agency records as documented in the Water Quality Management Basin Plan for the Red River of the North, recent operating data and inspection reports indicate no need currently or within the 20-year period required for consideration of wastewater treatment improvements under PL 92-500. Records for a 30-month period from October, 1974 to April, 1976 show an overall average flow of 0.717 MGD, which is only 51 percent of the design capacity. During this same period, effluent has been within discharge standards, except for a few suspended solids violations probably caused by operational problems. Furthermore, based on the current average flow and the 1990 population projection of the Minnesota Analysis and Planning System, University of Minnesota, of 9,606, it appears that no facilities planning will be needed in East Grand Forks during the next 20 years. In light of the fact that no need is foreseen to upgrade wastewater treatment at East Grand Forks, no such reevaluation is now necessary. Moreover, even if a need for improvements did exist, we feel that it would be untimely to do any facilities planning until such time as the community became eligible for funding through the Construction Grants program because such a long period of time would elapse between facilities planning and such time as East Grand Forks would become eligible for State/EPA funding for design specifications and construction; and it is very likely that the facilities planning would need major revision and, consequently, be of little or no value. The Agency believes that not only would this be wasteful but also an undesirable precedent for other communities. **4**

The above reiterates our concerns expressed at the June 10 meeting. We hope in the near future that we can meet with your staff to specifically go over the problem identification portion of the POS. If you have any questions, please feel free to contact Gregg Downing or myself on this matter.

Sincerely,

Paul E. Davis

Paul E. Davis, Chief
Planning Section
Division of Water Quality

cc: Mr. Roger Coppock, Planning Branch, U.S. EPA, Region V, Chicago
Mr. Norm Peterson, Department of Health, Bismarck, North Dakota

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

4. See response 2.

NorthWest Regional Development Commission

425 Woodland Avenue • Crookston, Minn. 56716 • 218-281-1396

June 18, 1976

Col. Forrest T. Gay, III
District Engineer
U.S. Army Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, MN 55101

Dear Col. Gay,

Thank you for the opportunity to review the draft plan of study for the Grand Forks - East Grand Forks Urban Water Resources Study. The need for a study of this nature is well documented. The following comments as outlined below represent our major interests at this time.

1. Since a statewide "208" Water Quality Program is about to begin in Minnesota it is vital that this local study should be coordinated with planning efforts of both the state and regional task forces. Both staff and policy level decisions between the Regional "208" task force and the Study Executive Committee should be coordinated to avoid duplication of activities and to insure consistency with area-wide planning and management objectives. **5**

2. We could probably assist in supplying information related to such itmes as: The Economy; Land Use; Flood Control; Drainage, etc. since they represent areas of regional involvement or interest. **6**

We have a great deal of information in our office which may be useful to you in carrying out this project. We would be happy to assist in any way necessary to facilitate your work in assisting the Cities of East Grand Forks. In summary we hope the aforementioned comments are useful [illegible]. We would appreciate your efforts to keep us informed as the [illegible] progresses. If you have any questions please don't hesitate to contact me.

Sincerely,

Eugene E. Abbott
Executive Director

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

5. Concur. Wastewater and water quality studies were fully coordinated with EPA and MPCA statewide planning efforts to minimize duplication of effort.

6. comment noted.

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Area Office - North Dakota
1500 Capitol Avenue
P. O. Box 1897
Bismarck, North Dakota 58501

JUN 18 1976

Colonel Forrest T. Gay, District Engineer
St. Paul District, Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

This responds to your June 4 letter requesting comments on the preliminary plan of study for the Grand Forks - East Grand Forks Urban Water Resources Study.

Although urban in many aspects, the proposed project area contains important fish and wildlife resources. The plan of study noted Kelly Slough National Wildlife Refuge within the project area. A review of our acquisition holdings indicate that our lands are more extensive than shown on the study area map on page 8 of the plan of study. Further, the North Dakota Game and Fish Department also owns land immediately north of the airbase. **7**

Within the study area and immediately adjacent to the north is habitat supporting remnant prairie chicken populations and larger populations of sharp-tailed grouse. The amount of suitable habitat for these birds is critically low. The timbered areas along Turtle Creek and other streams are known to support locally high populations of wood ducks. Along Grand Marais Creek in Minnesota, we are aware of substantial amounts of high quality fluvial wetlands. These wetlands support waterfowl and water associated animals. **8**

We hope the study will find ways to avoid any adverse effects to the existing wildlife habitat. While such adverse impacts are possible, so are the chances of habitat improvement. It is incumbent on all agencies to be continually alert for ways to employ efficient multiple use of water. For example, with waste water treatment facilities it may be possible to create and use marsh areas as a final filter to improve water quality. During the study, more attention to such possibilities is in order. **9**

7. Map on page 8 was revised to reflect comment.

8. Comment noted.

9, Comment noted.

We are not scheduled to receive transfer funds from your agency to study this project until FY 1978. A Fish and Wildlife report will probably be issued sometime in FY 1979. We hope that time schedule will meet your needs and that our input will be timely for your interim survey report. Please keep us informed of your progress and future developments on this study. **10**

Sincerely yours,

James C. Gritman
Area Manager

cc: DNR (Environment) St. Paul, MN
N.D. Game and Fish Dept.
Regional Office, Denver (ENV)
Regional Office, Minneapolis (ENV)
Area Office, Minneapolis (ENV)
Devils Lake WMD

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

10. Comment noted.

SWC NORTH DAKOTA
STATE WATER COMMISSION
900 east boulevard bismarck 58505
701-224-2750 north dakota

June 22, 1976

Colonel Forrest T. Gay III
District Engineer
St. Paul District, Corps of Engineers
1135 U. S. Post Office and Custom House
St. Paul, Minnesota 55101

RE: SWC Project No. 1655

Dear Colonel Gay:

This letter is in regard to the preliminary Plan of Study for the Grand Forks-East Grand Forks Area which accompanied your letter of June 4, 1976.

My staff has now had an opportunity to review this proposal and is in general agreement with the intended course of the study. The study area seems to adequately define areas of future growth and flood hazard potential. These are two factors of most concern to us. **11**

We appreciate this opportunity afforded us to comment on this important project and would like to follow its progress closely.

Sincerely yours,

Vern Fahy
State Engineer

VF:LK:rs

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

11. Comment noted.

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST
CHICAGO ILLINOIS 60604

JUL 14 1976

Colonel Forrest T. Gay, III
District Engineer
St. Paul District, Corps of Engineers
Department of the Army
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

Thank you for the opportunity to review and comment on your preliminary Draft Plan of Study, Grand Forks - East Grand Forks Urban Water Resources Study. As requested in your May 26, 1976, letter, a representative of our Interagency Planning Section met with members of your staff and planners from the Minnesota Pollution Control Agency (MPCA) on June 10, 1976, in St. Paul.

Our comments on the Plan of Study follow:

12 Section II, page 5, Study Area Boundary - The area proposed for study is a portion of the area to be studied at Level "B" intensity by the Upper Mississippi River Basin Commission and has already been studied in the Red River Basin Section 303 Plan pursuant to P.L. 92-500. It is important to coordinate the studies to prevent duplication of effort.

13 Section II, Demographic and Economic Data - It appears that the major portion of population is in the North Dakota subarea of the Study Area. As such, the primary emphasis of this Study will be under the jurisdiction of EPA Region VIII. We see the role of Region V to remain as primarily one of review and comment.

14 Section II, page 24, Wastewater Treatment, East Grand Forks - A need for 201 activity in East Grand Forks has not been identified by MPCA, consequently, East Grand Forks has not been included in the state priority list for funding under P.L. 92-500.

15 Section II, page 39, Federal Agencies - A Level B Study if approved would be conducted by the Upper Mississippi River Basin Commission; however, this section infers the Corps of Engineers may conduct the study. We feel the Level B Study would cover many of the same areas as the Urban Study and there could be a mutual impact and duplication of effort.

12. Concur. [illegible] with the Upper Mississippi River Basin Commission (UMRBC). [illegible] UMRBC letter, [illegible].

13. Concur. Region VIII was the [illegible] for the [illegible] concerns of Region V were [illegible] letter [illegible].

14. Comment noted.

15. [illegible]

JUL 14 1976

Section II, page 49, Institutional Arrangements - No mention is made of the EPA 201 or 208 program responsibility. The Region located in Chicago is Region V, not Region VI.

Section III, page 61, Municipal and Industrial Wastewater Sources - "Irrigation return flows, urban and rural storm runoff, sanitary landfills and open dumps", while important to a water resources study, should not be classified as "municipal and industrial flows".

Section III, page 62, Wastewater Management - Who will conduct 201 planning for East Grand Forks? As stated previously, no 201 planning needs have been identified for East Grand Forks by MPCA and no grant for facilities planning can be awarded without a State Priority Certification.

While this letter provides some of our views on this study, approval by this Agency for the wastewater portion is more appropriately extended through Region VIII since they are responsible for the activity in North Dakota the major population area. Furthermore, the approach suggested in the Plan of Study (POS) of wastewater planning in Minnesota is not consistent with current strategy of MPCA. To correct this, the POS should provide for an initial overview of the status of water quality management in East Grand Forks. Only if concurrence is received from the local government and MPCA should the work described in paragraph 1, page 34 and paragraph 1, page 63 be undertaken. At the June 10 meeting, the Minnesota Pollution Control Agency did not concur in the approach described in the POS and there does not appear to be an identified source for the required local 25 percent support.

However, if the study is supported by the Grand Forks area, it would appear that studies should in a very general way evaluate the potential for a cost-effective bistate system, but need not provide all of the detail of a full facilities plan for East Grand Forks unless there is a defined need for this as well.

If we can be of further assistance, please contact us.

Sincerely yours,

George R. Alexander, Jr.
Regional Administrator

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

16

16 The Institutional Arrangement section is concerned only with agencies or institutions and, therefore, does not include 201 and 208 programs. The 201 study was not necessary for East Grand Forks because existing wastewater facilities were determined to be adequate. A section 208 planning approach was included in the final version of the plan of study, September 1976 (page 64). Also, in the final version, Region VI was changed to Region V.

17

17. Comment noted.

18

18. Since existing wastewater facilities were adequate, 201 planning was not necessary.

19

19. Local assurances of cost sharing were provided by East Grand Forks (see letters dated 16 November 1976 and 17 November 1976) and approval was received from the MPCA through close coordination with that agency.

20

20. Concur.

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Area Office - North Dakota
1500 Capitol Avenue
P. O. Box 1897
Bismarck, North Dakota 58501

8 September 1976

Colonel Forrest T. Gay, III
District Engineer
St. Paul District, Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

We have reviewed the revised version of the preliminary Draft Plan of Study for the Grand Forks, North Dakota - East Grand Forks, Minnesota, Urban Water Resources Study. **21**

We have no additional comments at this time.

Sincerely yours,

Lyle J. Schoonover
Acting Area Manager

cc: DNR (Environment) St. Paul, Minnesota
N.D. Game and Fish Department, Bismarck
Regional Director, Denver (ENV-LWP)
Regional Director, Minneapolis (ENV)
Area Manager, Minneapolis (ENV)
Project Manager, Devils Lake WMD

21. Comment noted.

Minnesota Pollution Control Agency
(612) 296-7301

Colonel Forrest T. Gay III
District Engineer
St. Paul District, Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

This is in response to your letter of August 20, 1976 (NCSED-PB) requesting the concurrence of the Minnesota Pollution Control Agency with the proposed Urban Study for Grand Forks/East Grand Forks and the participation of the Agency in the effort-sharing requirements of the wastewater management portion of the study.

The Agency concurs with the flood control and water supply elements of the proposed study. Further, we support the concept of regionalized planning for wastewater management. However, the Agency finds the proposed wastewater portion of this study inconsistent with its policies for "Section 201, Facilities Planning" and "Section 208, Statewide Water Quality Management Planning."

On several occasions our staffs have discussed our specific concerns. These concerns are outlined in a letter from Paul E. Davis, Planning Section, Minnesota Pollution Control Agency, to Mr. Dave Haumersen, Urban Studies Section, dated June 14, 1976, Urban Studies Section memoranda for the record dated June 10, 1976 and July 29, 1976, and a letter from Paul E. Davis to Mr. Martin McCleery, Urban Studies Section, dated August 6, 1976. To date these have not been resolved, as evidenced by insufficient revisions to the Plan of Study. Accordingly, we cannot concur with, nor agree to participate in, the proposed wastewater management study pending resolution of these matters. **22**

The Agency remains available for further discussion on the issues of concern. I believe that a meeting between the Corps, the States of North Dakota and Minnesota, and the Environmental Protection Agency, Regions V and VIII, is essential to a resolution. I request that you schedule such a meeting in the near future.

Sincerely,

Peter L. Gove
Executive Director

cc: See attached list

1935 West County Road B2 Roseville Minnesota 55113
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22. See responses to MPCA letter, 8 October 1976.

SWC NORTH DAKOTA
STATE WATER COMMISSION
900 east boulevard bismarck 58505
701-224-2750 north dakota

September 20, 1976

Colonel Forrest T. Gay, III
District Engineer
U. S. Army Corps of Engineers
1210 U. S. Post Office & Custom House
St. Paul, Minnesota 55101

RE: SWC Project #1280
COE Project NCSED-PB

Dear Colonel Gay:

This letter is in reply to your August 20, 1976 letter in which you requested the N. Dak. State Water Commission to review and comment upon the proposed Urban Water Resources Plan of Study for Grand Forks and East Grand Forks.

The plan has been reviewed by our staff and the State Water Commission does concur in the proposed plan of study. In addition, you may be assured that we understand that:

1. The proposed planning effort is intended to meet the desires and needs of the area citizens and communities.

2. Close coordination will be maintained with all concerned local, state and federal agencies.

3. Non-federal participation must provide 25% of the waste-water management portion of this study.

4. The non-federal effort sharing contribution will reflect only funding derived from non-federal sources of qualifying federal revenue sharing funds.

In future correspondence to our office, please direct your letters to: Ken Royse, Flood Plain Management Division.

Sincerely yours,

Vern Fahy

Vern Fahy
State Engineer

VF:KR:ad

F-14

23 ... comments noted.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII
1860 LINCOLN STREET
DENVER, COLORADO 80203

September 22, 1976

REF: 8W-WP

Lieutenant Colonel Norman Hintz
Acting District Engineer
Department of the Army
St. Paul District Office, Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Lieutenant Colonel Hintz:

This is in response to a meeting held in Denver between members of my staff and the Urban Study Team from your office. The topic of that meeting dealt with the revised "Plan of Study" for the Grand Forks Urban Studies Program.

In reviewing the program objectives of this study, we find they follow very closely those goals which our Agency addresses under the "208" program. Therefore, the coordination of the two programs is extremely important. Both the States of North Dakota and Minnesota are developing statewide 208 workplans which stress their priorities under this program. EPA's philosophy on 208 water quality planning is that it is basically a local effort (non-federal), and that within broad guidelines from EPA, much latitude is given with respect to priorities, methodology for study, and solutions to water quality problems. In that Region V of EPA has relinquished its role in the coordination process to Region VIII, we will be looking primarily for compatibility between the two states' 208 programs and the Grand Forks Urban Studies program. My staff has been in contact with both states stressing the need for them to coordinate with your agency on their particular 208 program. **24**

By court order, 208 plans must be completed by November, 1978. Therefore, our Agency would like to see a high priority placed on the "Waste Management Study" so that it may be included in the final 208 reports. However, we are concerned that the existing Plan of Study does not provide detailed costs, by task, for this work element. We also feel the Plan of Study should specify the procedure(s) to be followed as part of the assessment of wastewater management. Without these details our office cannot adequately review the Plan of Study. We suggest that prior to initiation of a study of this magnitude, this detail be brought forth. **25**

24. See response 5 (NWRDC, 18 June 1976).

25. A draft of the findings of the stage 2 wastewater management plan was available in August 1977. A second draft was completed in December 1977, and the final draft was assembled in March 1978. Scopes of work and costs were made available on an iterative basis to reflect changes in work elements and costs.

Our specific comments for the five study areas identified under the "Waste Management Study" are presented below, item by item.

Study Item A: "A detailed plan for combined sanitary and storm-water sewer separation in Grand Forks to eliminate discharge of raw sewage to interstate or intrastate waters."

1. Under Section 201 of Public Law 92-500, Grand Forks received a federal grant to study the waste treatment requirements. A portion of that study deals with infiltration and inflow. At this time our office has not received an official copy of that report. We hope that the need for a combined sanitary and stormwater study under your program would be based on these previously funded projects.

Study Item B: "An urban drainage plan to provide guidance to the design of drainage systems to serve new areas of development and be consistent with water quality goals of the area."

2. No specific comments.

Study Item C: "An analysis of alternative methods of proper conveyance and treatment of stormwater runoff."

3. No specific comments.

Study Item D: "Identification of alternatives to the underground storm sewer system including surface drainage systems, a combination surge pond and drainage system, and a ponding percolation system."

4. No specific comments.

Study Item E: "Development of a section 201 facilities plan for East Grand Forks."

5. It is our understanding that East Grand Forks has a low priority for State or Federal funding and that this facility has no immediate or near term needs to satisfy State/Federal water quality/effluent standards. If this is the case we question the expenditure of Federal funds in this area.

The Urban Water Resource Study in the Grand Forks area has potential for significantly improving waste management in the Grand Forks area, but it can only be a success if all the major public entities get involved. To that end I am assigning Mr. James Rakers, (FTS 327-4963, or 303/837-4963), of our Planning Branch to help coordinate our effort for this study.

26. Concur. Wastewater and water quality studies were closely coordinated with the EIA, City of Grand Forks, and North Dakota State Health Department.

Our Agency is looking forward to working with you on this program.

Sincerely yours,

John A. Green
Regional Administrator

cc: Mr. Rolshoven, North Dakota
Mr. Paul Davis, Minnesota
Mr. Coppeck, Region V

15

CITY OF GRAND FORKS

GRAND FORKS, NORTH DAKOTA 58201

OFFICE OF MAYOR

September 24, 1976

Lt. Col. Norman C. Hintz, CE
Acting District Engineer
St. Paul District, Corps of Engineers
1135 U. S. Post Office and Custom House
St. Paul, Minnesota 55101

Re: Grand Forks - East Grand Forks Urban Water Resources Study

Dear Col. Hintz:

On September 21, 1976 the City of Grand Forks met with officials from East Grand Forks, Minnesota Pollution Control and the North Dakota Health Department regarding this study. We reviewed the plan of study in detail and made some minor revisions on the scope.

We endorse the plan and expect that the final report will be very beneficial to Grand Forks and East Grand Forks.

28

26. Comment noted.

Yours very truly,

Mayor C. L. O'Neill

CPO:ch

cc: Frank B. Orthmeyer
Director of Public Works

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST
CHICAGO, ILLINOIS 60604

SEP 28 1976

Colonel Forrest T. Gay, III
District Engineer
St. Paul District, Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

Thank you for the opportunity to review and comment on the Plan of Study, Grand Forks-East Grand Forks Urban Water Resources Study forwarded with your letter of August 20, 1976. It appears the comments made in our July 14, 1976, response to the draft plan of study for this project, while partially incorporated in this document, have generally been overlooked in the formulation of the plan of study. Furthermore, the proposals in the plan of study are of such a general nature, it is difficult to determine exactly what is being proposed or if the study as proposed would be a redundant effort to studies already completed or underway in the area.

29

29. Events following the 14 July 1976 letter from Region V of the EPA were coordinated with Region VIII in accordance with Region V. Region V was not fully informed of these events, and later coordination with Region V resolved this problem.

The statement at the bottom of page 24 attributed to the Minnesota Pollution Control Agency (MPCA) is not as our representative at the June 10, 1976, meeting remembers. After contacting MPCA by phone we were assured the statement should be, "The MPCA has indicated that the East Grand Forks lagoon system meets present Federal and State water quality standards and is expected to meet the standards of 1977 and 1983." The statement that "no differences exist between present State standards and the 1977 or 1983 requirements" appears inaccurate.

30

30. This quote was taken from the 14 June 1976 letter from the MPCA.

As stated in our July 14, 1976, letter, the MPCA has not identified a need for facilities planning in East Grand Forks. Consequently, East Grand Forks is not now and is not likely to be included in the Minnesota State priority list for grant funding to construct wastewater treatment facilities unless the State determines there is, in fact, a need for such priority. Inasmuch as the Corps has not identified a source of the 25 percent local share for East Grand Forks it would appear futile to design facilities that would require 100 percent local funding.

31

31. See response 18; also see East Grand Forks letters (16 November 1976 and 17 November 1976).

It is interesting to note that the Corps proposes to conduct combined sewer separation detailed planning even though this is clearly required, if needed, as part of the 201 planning already under way in Grand Forks and would seem to be a duplication of effort.

32

32. See response 5.

Water quality management planning for the Minnesota portion of the Basin is the responsibility of the MPCA. Any areawide water quality management planning (208 program) conducted by the Corps would require the consent of and coordination with the MPCA. As was pointed out in the plan of study, 25 percent of the costs of the wastewater study proposed by the Corps as 208 planning for East Grand Forks must be provided by local funding. Inasmuch as the MPCA is required to perform 208 planning for the area, its planning would be at no cost to East Grand Forks.

Regarding the proposed executive committee for the study, Region V regrets it will not be able to accept an active position on this committee. Due to limited staff and prior full commitments to other programs, the role of Region V must be limited to one of review and comment. If conditions should change during the course of the study, we will assume a more active position.

In summary, it appears the Corps has not established a need for the wastewater portion of the proposed urban water resources study for this area. Any plan of study to meet the approval of this Region must address the study in much more detail to resolve the potential conflicts and answer the many questions left unanswered by this document. If we can be of further assistance please contact us.

Sincerely,

George R. Alexander, Jr.
Regional Administrator

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

33 33. See response 5; also see East Grand Forks letters (16 September 1976 and 17 November 1976).

34 34. See response 13.

35 35. The intent of the plan of study is to identify areas that need study and set forth an outline for stage 2 where greater detail is developed.

United States Department of the Interior
BUREAU OF OUTDOOR RECREATION
MID CONTINENT REGION

MAILING ADDRESS
Post Office Box 25387
Denver Federal Center
Denver, Colorado 80225

STREET LOCATION
603 Miller Court
Lakewood, Colorado
Telephone 234-2634

IN REPLY REFER TO
D6427

Colonel Forest T. Gay, III
District Engineer
St Paul District
U.S. Army Corps of Engineers
1135 U.S. Post Office and Customs House
St. Paul, Minnesota, 55101

30 September 1976

Attention: Dave Haumersen

Dear Colonel Gay:

We appreciated the opportunity to meet with the Grand Forks-East Grand Forks urban study team members on August 26, 1976. The Mid-Continent Region is very interested in providing input to this planning effort and as a result of this meeting and expression at the public hearing of interest and concern for recreation, we have reviewed the plan of study and offer the following comments.

19

Page 20, Parks and Recreation

The inventory data should also consist of recreation areas and facilities in the surrounding townships to Grand Forks and East Grand Forks. **36**

Page 40

The description of existing problems for recreation should be expanded since it is rather sketchy. We also feel the recreation problems section should not be confined solely to water oriented or water related problems but include a wider spectrum of [illegible] door recreation problems. **37**

Page 40, Statement of Study Objectives

This section should be revised to include study objectives for recreation. An example would be to determine future recreation needs, and as a result of other study element alternatives, identify the recreation potential that can be incorporated with other study objectives, such as flood control, to help alleviate recreation needs. **38**

36. HCRS prepared a Leisure Time Analysis for the study. The report included information on the recreation facilities in the study area and documented the needs and alternatives available for recreation.

37. See response 36.

38. See response 36.

Page 42, Federal Agencies

The involvement of the Bureau of Outdoor Recreation should be recognized through its Land and Water Conservation Fund program. Under this 50-50 matching grants-in-aid effort, approximately $275,000 have been provided to Grand Forks to develop outdoor recreation facilities. (See Attached booklet for program description.) **39**

Page 42, State Agencies

Acknowledgement should be given to the North Dakota State Outdoor Recreation Agency, as well as the Minnesota Department of Natural Resources and State Planning Agency, for administering the Land and Water Conservation Fund program at the State and local levels. **40**

Page 47 - (Work sequence diagram)

The water-related recreation problems should be more inclusive. We suggest these be modified to include outdoor recreation problems. **41**

Page 53

A description of the Bureau of Outdoor Recreation should be included. (See attached booklet.) **42**

Page 54

A description of the North Dakota State Outdoor Recreation Agency, as well as the Minnesota State Planning Agency, should be included. **43**

Page 56

A description of the Minnesota Department of Natural Resources' role in administering the Land and Water Conservation Fund program should be included, as well as the Minnesota State Planning Agency. **44**

Page 60, Study Management Organization

If you decide our participation is necessary, it would be desirable to show the Bureau as a member of the study team and as a member of the agency advisory committee. We also suggest the North Dakota State Outdoor Recreation and the Minnesota State Planning Agencies be included as members of the agency advisory committee. **45**

Page 61, Agency Advisory Committee

Same comments as stated above. **46**

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

39. A description of HCRS authority and responsibility was included in the Institutional Analysis. Comment noted.

40. Descriptions of the Minnesota DNR's and North Dakota Outdoor Recreation Agency's authority and responsibility are included in the Institutional Analysis.

41. Comment noted.

42. See response 39.

43. See response 40.

44. A description of the Minnesota DNR's authority and responsibility was included in the Institutional Analysis.

45. The HCRS (formerly BOR) was included on the Agency Advisory Committee at a later date.

46. See response 45.

Page 68, Water-Related Recreation

As mentioned previously, we feel that a more comprehensive approach should be taken toward outdoor recreation and the study should not be restricted only to water oriented or water related recreation. **47**

The inventory to be completed will be by use category. Consideration should be given to relating these use categories to resource units (i.e., regional parks, neighborhood parks, playfields, etc.).

Any sites or areas outside the cities of Grand Forks and East Grand Forks that have the potential for meeting recreation needs of the study area should be included in this inventory.

The State Comprehensive Outdoor Recreation Plans for North Dakota and Minnesota, and Appendix I "Recreation and Preservation", Souris-Red-Rainy River Basin Comprehensive Study, should be mentioned as a basic planning document for the recreation element of the study. It appears in this description that the study will be concerned with inventory only. We suggest that discussion be included concerning the demand and needs (existing and future); the identification of potential sites and opportunities; an institutional analysis of the recreation entities; an implementation or action plan; and a cost/benefit analysis.

Page 73 - 86, Study Costs, Work Items and Effort Component

within these pages, outdoor recreation should be identified and adequately funded to assure that recreation needs are considered in the study process. **48**

If clarification is needed on any of our comments, please let us know.

Sincerely,

for Albert G. Baldwin
Assistant Regional Director
Resource Planning Services

cc: Lake Central Region

47. See response 36.

48. See response 36.

STATE OF MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
CENTENNIAL OFFICE BUILDING · ST PAUL, MINNESOTA · 55155

DNR INFORMATION
612 296 6157

October 1, 1976

Colonel Forrest T. Gay, III
District Engineer
U.S. Army Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, MN 55101

Dear Colonel Gay:

We have received your preliminary Draft Plan of Study for the Grand Forks, North Dakota - East Grand Forks, Minnesota, Urban Water Resources Study, July 1976. For the proposed investment of personnel and funds we do not feel this study would best serve this department's interests and priorities within the Red River of the North basin. We take this position for the following reasons:

A. Agricultural flooding and the effects of local remedial measures is currently the top priority deserving study. **49**

B. The urban study area in Minnesota is only a small portion of the total study area, as the study boundaries appear to have been established to primarily serve North Dakota interests. **50**

C. Flood Control measures for East Grand Forks are currently being carried out under a separate authority by your office and will not be significantly affected by this study. **51**

D. The study of wastewater treatment facilities for the East Grand Forks area has been assigned a low priority by the Minnesota Pollution Control Agency. **52**

E. We concede that there may be a need for additional water supply for East Grand Forks but, again, this single priority is not the most significant water and related land resource management problem in this area. **53**

We note in your summary of study coordination that no state agencies were consulted until mid-1976 on any of the above matters and no contacts were made with this department. This explains, in part, our critical comments on this study at this time. Had closer liaison been maintained at the inception of the study proposal and developments of the study plan, we could have earlier identified our overall views and priorities. **54**

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

49. The Urban Studies Program was intended to develop solutions to specific water resource problems. Although the agricultural flooding and diking will affect flood stages at Grand Forks-East Grand Forks, they are not considered to be specific urban problems. The agricultural flooding and diking are addressed under the Red River of the North general authority. Appropriate coordination between the two studies was maintained.

50. The area boundaries for this urban study were established by a combination of climatic, physical, biological, and socioeconomic characteristics which distinguish this area from surrounding regions without regard to what portion of the study area is in Minnesota or North Dakota.

51. Authorized flood control measures for East Grand Forks were developed in the "Flood Control Definite Project Report on the Red River of the North, Grand Forks, North Dakota-East Grand Forks, Minnesota," prepared by the St. Paul District in May 1953. However, the permanent measures were never constructed because of a lack of local cooperation. The urban study reviewed the authorized project and other problem areas at East Grand Forks and determined that more detailed studies were warranted in view of increased urban development and changed hydrologic and hydraulic conditions. These studies of East Grand Forks flood control were done under a separate authority.

52. The study of wastewater treatment facilities for the East Grand Forks area has been coordinated with the MPCA and the EPA. Both agencies indicated their concurrence with the proposed study subject to specific conditions outlined in their letters of assurance contained in the final plan of study. These conditions will be recognized in the progress of the study.

53. In a letter dated 14 August 1975, the Honorable Vivian E. Harney, Mayor of East Grand Forks, called the city's water needs "critical" and requested that we proceed with the water supply study as outlined in the draft plan of study. In view of projected populations for these areas, present water supply, treatment, and distribution facilities will not be adequate to meet projected demands. In addition, the volume and quality of water in the Red River of the North and the Red Lake River may not be adequate to meet projected urban water needs, particularly during low flow years.

54. Study coordination through mid-1976 was maintained at the local level to determine local concerns and needs for future studies. Because of the 25-percent non-Federal participation requirement for conducting wastewater studies, early coordination with State and Federal agencies concerned with wastewater management was necessary. Following documentation of these needs and concerns, the Corps mailed to the DNR on 30 July 1976, 20 August 1976, and 15 September 1976 draft reports and letters inviting our participation in a public meeting on 26 August 1976, requesting DNR comments on the April draft plan of study, and requesting DNR comments on the July draft plan of study for the Grand Forks-East Grand Forks urban area. The purpose of the letters, meeting, and review was to invite DNR participation at the initial stage of study and incorporate DNR concerns in the planning process. (See DNR letter, 30 December 1976.)

When viewed with other problems and needs for this area, I cannot support the assignment of department personnel or state funds to this study at the extent that you or local interests may desire. As you have been directed by the Congress to undertake this investigation, I will offer whatever support I can, consistent with our staff capabilities and overall priorities for water resources management.

I have been advised by my staff that they have a few specific comments on the report draft that could be best transmitted by contacting Mr. James Wright, Division of Waters. I appreciate the opportunity I was given to convey my overall views on this study.

Sincerely,

DEPARTMENT OF NATURAL RESOURCES

Robert L. Herbst
Commissioner

Minnesota Pollution Control Agency

OCT 5 1976

Colonel Forrest T. Gay III
District Engineer
St. Paul District
U.S. Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

This is in response to your letter of August 20, 1976 (NCSED-PB) requesting the concurrence and participation of the Minnesota Pollution Control Agency (MPCA) in the proposed Urban Study for Grand Forks/East Grand Forks. In a previous letter dated September 17, 1976, the MPCA stated that concurrence and participation in the wastewater management portion of the study could not be agreed to pending resolution of issues being discussed between our staffs.

We are pleased that the Urban Study will include investigations of flood control and water supply problems in the study area. We trust that these will be coordinated with the Minnesota Department of Natural Resources and the Minnesota Department of Health. The comments contained in this letter refer exclusively to the proposed wastewater management aspects of the study.

Based upon a meeting of the proposed Advisory Committee on September 21, 1976 at Grand Forks, the MPCA will concur contingent upon the following:

1. The objectives of the wastewater portion of the study, which are currently listed on pages 35-6 of the Plan of Study (POS), be changed to the following: **55**

   a. an Urban Studies area wastewater management plan to compare alternatives in managing wastewater for Grand Forks, East Grand Forks and the Grand Forks Air Force Base

   b. a detailed plan for combined sanitary and storm-water sewer separation in Grand Forks to eliminate discharge of raw sewage to interstate or intrastate waters

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ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

55. Concur. Report revised as suggested. (In reference to part (d), see East Grand Forks letter, 17 November 1976).

c. an analysis of alternative methods of proper conveyance and treatment of stormwater runoff, including identification of alternatives to the underground storm sewer system such as surface drainage systems, a combination surge pond and drainage system, and a ponding percolation system

d. a facilities plan for East Grand Forks

2. Prior to carrying out work toward the above objectives, "scopes of work" for each be prepared by the Corps and approved by the MPCA. The "scopes of work" would be similar to work plans for each objective and would detail the tasks to be performed and the results to be expected; the phasing of the tasks, including an identification of which later-phased tasks are contingent upon the results of earlier-phased tasks; and estimated costs for each task. A significant criterion for MPCA approval of the "scopes of work" would be cost estimates commensurate with results, as viewed in the context of similar work done under other programs in the State. **56**

3. As part of developing the "scopes of work" for objective "1d" above, the Corps request a letter from the City of East Grand Forks specifically asking for a facilities plan-type study and explaining the reasons why such a study is desired and the results expected from it. **57**

4. As part of developing the "scopes of work" for objective "1a" above, the Corps specify exactly what elements of such a regionalized wastewater management study are necessary to support work for objectives "1b-d." This requirement is based on the fact that agreement was reached at the September 21 meeting that a regionalized study for its own sake was undesirable, but that certain outputs of such a study are necessary for objectives "1b-d." Concurrence with any work under objective "1a" beyond what is necessary to support the other objectives would require assurance from the City of Grand Forks that it is willing to withhold application for a Step II Construction Grants program grant request until the Urban Study is completed. **58**

5. All references to planning under Section 208 of Public Law 92-500 be removed from the POS, as all authority for such planning in the East Grand Forks area rests with the MPCA pursuant to action by the Governor. **59**

56. Arrangements were made for coordination at the agency advisory committee level for the development and review of scopes of work and formulation of alternative plans for wastewater management. This coordination was needed to ensure that wastewater studies were conducted in accordance with each agency's policies and that efforts were not duplicated. Scopes of work prepared by the Corps outlined tasks to be performed and indicated expected results for agency advisory committee review. When review had been completed, cost estimates for awarding contracts were prepared by our office.

57. City of East Grand Forks provided letter of assurance (17 November 1976).

58. Subsequent scopes of work specified elements needed to support objectives 1b-d. The city of Grand Forks used stage 3 urban study wastewater management report to meet requirements of step I Construction Grants Program, thereby fulfilling the request that Grand Forks withhold its step II application until urban study is completed.

59. Corps regulations require that the wastewater management component of alternative urban water resources plans be compatible with the intent of Public Law 92-500. Urban areawide wastewater planning was coordinated with MPCA's policies and is consistent with statewide 208 planning as well as EPA guidelines for areawide waste treatment management planning.

6. Information relating to wastewater treatment at East Grand Forks be updated to correspond to official information held by the MPCA (enclosed is the MPCA's construction permit). **60**

Upon receipt of your response agreeing to the preceding conditions, the MPCA will participate in the study to the point of reviewing the "scopes of work" prepared for each objective, at which time a decision on concurrence and further participation will be made.

I hope that these conditions will be agreeable to you and that preparation of "scopes of work" can soon begin.

Sincerely,

Peter L. Gove
Executive Director

PLG:mab
Enclosure
cc: Mr. Martin R. McCleery, Urban Studies, U.S. Corps of Engineers
Mr. Frank Orthmeyer, City Engineer, Grand Forks
Floan and Sanders, Inc., Consulting Engineers, East Grand Forks
Mr. James Rakers, U.S. Environmental Protection Agency, Denver
Mr. Roger Coppock, U.S. Environmental Protection Agency, Chicago

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

60. Concur. The design capacity of East Grand Forks' lagoon system was changed to 1.4 mgd.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333
TELEPHONE (404) [illegible]

October 21, 1976

Colonel Forrest T. Gay III
District Engineer
US Army Engineer District, St. Paul
1135 US Post Office & Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

We have received the notice on the proposed Grand Forks-East Grand Forks Urban Water Resources Study, North Dakota and Minnesota, which will involve water and land use management for the area. We will be interested to learn if structural developments will result, such as the construction of floodwater detention reservoirs. As you know, this area experienced an epidemic of mosquito-borne encephalitis in both humans and equines in 1975 and required extensive epidemic control measures. For this reason, every precaution should be considered in the development of any water resource project in order not to create mosquito-producing habitats which could contribute to a potential encephalitis problem. **61**

Please place this office on your mailing list to receive future notices pertaining to the study. If we can furnish any additional information, feel free to call upon us.

Sincerely yours,

Richard O. Hayes, Ph.D., MPH
Chief, Water Resources Activity
Vector Biology & Control Division
Bureau of Tropical Diseases

cc: Regions V & VIII
ND St Hlth Dept
MN St Hlth Dept

61. Comment noted.

UPPER MISSISSIPPI RIVER BASIN COMMISSION
FEDERAL BUILDING ROOM 510 FORT SNELLING TWIN CITIES MINNESOTA 55111 PHONE 612 725 4690
[illegible] ROOM 342 FEDERAL BLDG P O 657 2ND AVE N FARGO N D 58102 701 237 5771 EXT 5355
OFFICE OF THE CHAIRMAN

October 21, 1976

Norman C. Hintz
Lieutenant Colonel, CE
Acting District Engineer
Department of the Army
St. Paul District, Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

Dear Colonel Hintz:

In response to your letter dated October 18, 1976 concerning the Grand Forks-East Grand Forks Urban Study, we must decline the opportunity of serving on your Executive Group, Study Team, Agency Advisory Committee and Citizens Committee. After careful consideration, I am sure you will agree that it would be improper for our Commission, representing the consensus viewpoints of 6 States and 10 Federal agencies including yours, to participate as a voting member on your Urban Study Committees.

However, it is proper and highly desirable that our Commission, through its Souris-Red-Rainy Regional Committee, offer technical assistance and advice to the Urban Study participants. We are sure that the results of the Urban Study will greatly assist us in the preparation of our Comprehensive Coordinated Joint Plan.

Sincerely,

George W. Griebenow

George W. Griebenow
Chairman

GWG/js
cc Vern Fahy
Floyd Fischer

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ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

62. Comment noted.

Copies of letter to:

Mr. Dave Haumersen, Chief, Urban Studies Section, Corps of Engineers
The Honorable Louis A. Murray, Mayor, East Grand Forks
Floan and Sanders, Inc., Consulting Engineers, East Grand Forks
Mr. Frank Orthmeyer, City Engineer, Grand Forks
Mr. Ray Rolshoven, North Dakota Department of Health, Bismarck
Mr. Roger Coppock, U.S. Environmental Protection Agency, Chicago
Mr. James Rakers, U.S. Environmental Protection Agency, Denver

CITY OF GRAND FORKS

GRAND FORKS, NORTH DAKOTA 58201

OFFICE OF MAYOR

October 28, 1976

Colonel Hintz
Corps of Engineers
St. Paul, Minnesota 55101

RE Grand Forks, East Grand Forks Urban Resources

Dear Sir:

Mr. Martin McCleery, Mr. Dave Haumersen and members of the City of Grand Forks staff met at City Hall on October 27, 1976 (as well as various other occasions) for the purpose of reviewing the plan of study for the wastewater portion of the above referanced study.

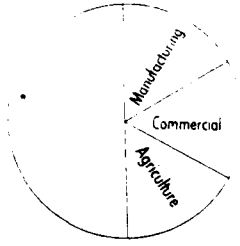
We will continue to give you our support in the plan of this study and urge the Corps of Engineers proceed as per our request dated September 20, 1973. Grand Forks is willing to provide the 25% nonfederal contributions for the wastewater management study as would be allocated to the North Dakota portion of the study. It has been my understanding that our staff, time and contributions would more than match the required contribution in kind. **63**

If you need further substantiation, please feel free to write or call.

Yours very truly,

C.P. O'Neill
Mayor

63. Comment noted.



CITY OF EAST GRAND FORKS

"Center of the Rich Red River Valley"

EAST GRAND FORKS, MINNESOTA 56721

November 16, 1976

Colonel Hintz
Corps of Engineers
St. Paul, Minnesota 55101

Re: Grand Forks, East Grand Forks Urban Resource Study

Dear Sir:

Mr. Martin McCleery, Mr. Dave Haumersen and members of the City of East Grand Forks staff met at City Hall on October 27, 1976, for the purpose of reviewing the plan of study for the wastewater portion of the above referenced study.

We will continue to give you our support in the plan of this study **64** and urge the Corps of Engineers to proceed as per our request. East Grand Forks is willing to provide the 25% non-federal contribution for the wastewater management study as would be allocated to the Minnesota portion of the study. It has been our understanding that our staff, time and contributions would more than match the required contribution in kind.

If you need further substantiation, please feel free to write or call.

Yours very truly,

James Gander - President
City Council

cc: Martin McCleery

64. Comment noted.

CITY OF EAST GRAND FORKS

"Center of the Rich Red River Valley"

EAST GRAND FORKS, MINNESOTA 56721

November 17, 1976

Colonel Forrest T. Gay III
District Engineer - St. Paul District
U.S. Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Re: Grand Forks, East Grand Forks Urban Water Resources Study

Dear Colonel Gay:

In a letter dated October 8, 1976, Mr. Peter L. Gove, Executive Director of the Minnesota Pollution Control Agency requested a letter from the City of East Grand Forks, specifically asking for a facility plan-type study. The City of East Grand Forks hereby requests the Corps of Engineers to include, as a part of the Urban Water Resources Study, a facility plan for East Grand Forks. **65**

The City of East Grand Forks has for the past three years experienced significant growth in the Industrial, Commercial and Residential area. The American Crystal Sugar Company has recently completed $50,000,000.00 worth of plant expansion. New commercial ventures within the City include two motels (160 units), a theatre and office building, a restaurant and lounge, a truck stop and farm supply store, a cabinet manufacturing facility and hardware store, a liquor distribution center, a bowling alley and a furniture store.

During the period beginning January, 1975 thru October, 1976, permits were granted for construction of 121 single family homes, 9 duplexes, 1 four-plex, 3 eight-plexes, 3 twelve plexes and 2 twenty six plexes.

Recent institutional expansion includes the opening of 20 apartment units at the Good Samaritan Nursing Home and expansion of facilities at the East Grand Forks Area Vocational Technical Institute from 80,000 square feet to 130,000 square feet.

Because of the accelerated rate of growth of the City and with the possible future expansion of the food processing industry, we feel a facility study for the City of East Grand Forks is appropriate at this time.

The facility plan would provide a format for inventorying the existing system, determining any problems, projecting future conditions, developing alternatives and assessing the impact of the alternatives.

Colonel Forrest T. Gay III
District Engineer - St. Paul District
U.S. Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

If there are any questions or if the City may be of further help in implementing the study, please contact us.

Yours respectfully,

Jim Gander, President
City Council

cc: Martin McCleery

Environmental Control
DIVISION OF WATER SUPPLY
AND POLLUTION CONTROL

NORMAN L. PETERSON P.E.
DIRECTOR
701) 224-2354

North Dakota State

Department of Health

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

JONATHAN B. WEISBUCH, M.D.
STATE HEALTH OFFICER

W. VAN HEUVELEN, CHIEF
ENVIRONMENTAL CONTROL

November 19, 1976

Department of the Army
St. Paul District Corps of Engineers
1135 US Post Office and Customhouse
St. Paul, Minnesota 55101

Attention: Mr. J. R. Calton, Chief
Planning Branch
Engineering Division

Gentlemen:

The memo for the record, regarding the first meeting of the Agency Advisory Committee, which was held on November 10, 1976, has been received by this Department. The following items should be considered for revising the Plan of Study:

1. The listing of representation on the Agency Advisory Committee as shown on page 61, does not agree with the listing included on page 62. **66**

2. The summary of the Study as shown on pages 35 and 36, does not agree completely with the Statement of Study objectives on page 40. **67**

In addition, your letter of November 5, 1976, indicated that the scope of work would be discussed and modified into a contract document. It was indicated at the meeting that the scope of work being reviewed was really a content of plan. This matter should be corrected immediately to avoid further confusion. Continuing in this current manner will only result in delays in the future. **68**

Sincerely,

Raymond Rolshoven

Raymond Rolshoven, PE
Assistant Director

RR:dmb
cc: Environmental Protection Agency
City Engineer, Grand Forks

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

66. Concur. Report revised for consistency.

67. Concur. Report revised for consistency.

68. Comment noted.

Environmental Control
DIVISION OF WATER SUPPLY
AND POLLUTION CONTROL

NORMAN L. PETERSON P.E.
DIRECTOR
(701) 224-2354

North Dakota State

Department of Health

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

JONATHAN B. WEISBUCH, M.D.
STATE HEALTH OFFICER

W. VAN HEUVELEN, CHIEF
ENVIRONMENTAL CONTROL

November 23, 1976

Department of the Army
St. Paul District Corps of Engineers
1135 US Post Office and Customhouse
St. Paul, Minnesota 55101

Attention: Mr. J. R. Calton, Chief
Planning Branch
Engineering Division

Gentlemen:

As requested, the Stage I Public Information Fact Sheet for the Grand Forks-East Grand Forks Urban Water Resources Study has been reviewed by this Department and at this time, the following comments are offered:

35

The "potential alternatives" listed includes many items that are normally involved in the 201 Facilities Planning Process. THe City of Grand Forks has engaged a consultant to prepare a 201 Facility Plan. The Grand Forks-East Grand Forks Urban Water Resources Study has indicated that a Facilities Plan will be prepared for East Grand Forks. There has been considerable discussion involved in avoiding duplication of effort and listing these items again will certainly cause misunderstandings and could cause delays in the progress of the project as well as unnecessary expenditure of funds. **69**

Sincerely,

Raymond Rolshoven

Raymond Rolshoven, PE
Assistant Director

RR:dmb

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

69. The wastewater portion of the Grand Forks-East Grand Forks Urban Study was much more complete than a 201 facilities plan. For instance, the wastewater study considered regional needs instead of individual community needs. Coordination between studies ensured minimal duplication.

STATE OF MINNESOTA
WEST POLK SOIL AND WATER CONSERVATION DISTRICT
107 EAST SECOND STREET
CROOKSTON, MINNESOTA 56716
TELEPHONE 281-1448

November 29, 1976

Department of the Army
St. Paul District,
Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

Attention: Mr. Martin McCleery

Dear Mr. McCleery,

Mr. J. R. Calton, Chief of Planning Branch, Engineering Division, U.S. Corps of Engineers sent the Grand Forks - East Grand Forks Urban Study Progress Report for our review and comment. Following a study of this material, the following comments are made.

Flood Control:
What provisions are being considered to control erosion on the existing drainage outlets into the Red River and Red Lake Rivers? **70**

Waste Water:
City and private sewage lagoons now in use have seepage problems. Seepage from these lagoons affect adjacent cropland. These existing problems need correction prior to future development. **71**

Yours truly,

Willard Guerard

Willard Guerard, Chairman
West Polk Soil & Water
Conservation District

WG/lp

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

70. The Soil Conservation Service is addressing this problem under its Resource Conservation and Development Program.

71. Comment noted.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Box 1458, Bismarck, North Dakota 58501

December 6, 1976

Colonel Forrest T. Gay, III
District Engineer
Corps of Engineers
1135 U. S. Post Office & Custom House
St. Paul, Minnesota 55101

Refer to NCSED-PB

Dear Colonel Gay:

We have reviewed the September draft plan of study for the Grand Forks-East Grand Forks Urban Water Resources Study transmitted with your letter of November 24, 1976, and have no comments. **72**

We will appreciate being kept informed of the study progress.

Sincerely,

Allen L. Fisk
State Conservationist

72. Comment noted.

STATE OF MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
CENTENNIAL OFFICE BUILDING · ST PAUL, MINNESOTA · 55155

December 30, 1976

DNR INFORMATION
612 296-6157

Colonel Forrest T. Gay
District Engineer
U.S. Army Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, MN 55101

Dear Colonel Gay:

On December 20, 1976 Lt. Colonel Hintz wrote to me in regard to the Grand Forks-East Grand Forks Urban Water Resources Study. He requested that I indicate an interest in participating in the study and designate representatives for the executive and agency advisory committees.

As set forth in my October 1, 1976 letter to you, I will direct Department personnel to participate in the study consistent with our staff capabilities and overall priorities for water resources management. I am designating Mr. James Wright and Mr. Robert Pofahl of our Division of Waters to serve on the executive committee and agency advisory committees respectively.

73

Sincerely,

Robert L. Herbst
Commissioner of Natural Resources

FLH

cc: Gerald Seinwill, Director
Division of Waters

18

F-20

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

73. Comment noted.

Minnesota Pollution Control Agency

(612) 296-7202
January 10, 1977

Colonel Forrest T. Gay, III
Department of the Army
St. Paul District, Corps of Engineers
1135 U.S. Post Office & Custome House
St. Paul, Minnesota 55101

Dear Colonel Gay:

Over the past several months, my staff has been involved in several meetings and discussions regarding your Agency's Urban Study at Grand Forks and East Grand Forks. At the November 19, 1976 meeting, the Agency concerns with the Plan of Study, particularly the wastewater position, were discussed and summarized. Our most fundamental concern is that the study proceed step-wise from identification of legitimate and realistic problems in managing wastewater to develment of alternative solutions. It was concluded at this meeting, that the revised form of the Scopes of Work for stage 2 of the study will be designed to allow satisfactory resolution of this and other issues. In regard to the City of East Grand Forks' letter of November 17, we are still not satisfied with the response as requested in Peter L. Gove's letter of October 8, 1976 (item 3). Hopefully, this issue can be resolved as early as possible in the stage 2 planning process.

74

75

With this understanding, we agree to participate in the Corps study through stage 2. We are therefore designating the following Agency personnel:

C. A. Johannes - Executive Committee
Paul E. Davis - Agency Advisory Committee

We again want to note that our Agency staff time is limited.

We hope to continue our cooperation in this study to make it meaningful and useful at the local level.

Sincerely,

Louis J. Breimhurst, P.E.
Director
Division of Water Quality

LJB/PED/dm
cc: See Attached List

1935 West County Road B2, Roseville, Minnesota 55113
Regional Offices • Duluth Brainerd Fergus Falls Marshall Rochester Roseville
Equal Opportunity Employer

F-24

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

74. Concur. The first draft of the Wastewater Appendix included the problem identification text. The second draft consisted of the problem identification material plus the formulation of alternatives, and the third draft added an evaluation of alternatives to this information.

75. The issue of local support by East Grand Forks was resolved in later planning in which the MPCA was included by being represented on the executive and agency advisory committees.

Copies of Letter to:
James Rakers, Region VIII, U.S. Environmental Protection Agency,
Denver, Colorado
Roger Coppock, Region V, U. S. Environmental Protection Agency.
Chicago, Illinois
Ray Rolshoven, Department of Health, Missouri Office Building,
1200 Missouri Avenue, Bismark, North Dakota

STATE OF MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
CENTENNIAL OFFICE BUILDING · ST. PAUL, MINNESOTA · 55155

January 21, 1977

Colonel Forrest T. Gay
District Engineer
St. Paul District, Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, MN 55101

Dear Colonel Gay:

The Minnesota Department of Natural Resources reviewed the Stage II Work Plan Outline for the Grand Forks-East Grand Forks Urban Water Resources Study. The proposed study is all encompassing and will address most every topic of concern. I trust you will devote the necessary effort to adequately analyze each topic. Present review of the proposed study generated the following comments.

- Flood Control, page 1, paragraph 1, sentence 2. The sentence suggests flood protection less adequate than the standard project flood is acceptable. The sentence should read - The feasability of upgrading and extending the existing and authorized flood control projects to provide protection against the standard project flood or higher flood stages will be evaluated and the optimum level of flood protection will be determined. **76**

- Recreation Study: The recreation study should identify the recreational related activities of fish and wildlife. **77**

We will have further comments as the study proceeds and specific recommendations and proposals are made. The inclusion of the capabilities and limits of the data will be helpful to commend on specific recommendations.

We appreciate the opportunity to provide comments on this plan of study.

Sincerely,

Robert L. Herbst
Commissioner of Natural Resources

RLH

AN EQUAL OPPORTUNITY EMPLOYER

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

76. Stage 2 was used as a "feasibility study" with regard to what level of flood protection could be justified for further study by the Corps under an authority different than the urban study. Results of the second study were not available at the time of this report.

77. Concur. The recreation studies were conducted by the Heritage Conservation and Recreation Service (HCRS) in the Leisure Time Analysis. The HCRS did include the recreational related activities of fish and wildlife in its analysis.

Environmental Control

DIVISION OF WATER SUPPLY
AND POLLUTION CONTROL

NORMAN E. PETERSON, P.E.
DIRECTOR
701 224-2354

North Dakota State

Department of Health

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

JONATHAN B. WEISBUCH, M.D.
STATE HEALTH OFFICER

W. VAN HEUVELEN, CHIEF
ENVIRONMENTAL CONTROL

February 8, 1977

Department of the Army
St. Paul District
Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

ATTENTION: Col. Forest T. Gay, III

Gentlemen:

The Stage 2 Workplan Outline has been reviewed by this Department and the following general comments are offered:

1. The outline of work elements should indicate the time schedule for completing the tasks. **78**

2. Several of the work elements are too general and should be more specific. **79**

3. The work elements appear to duplicate other ongoing efforts. **80**

4. The outline of work elements contains tasks assigned to the architect engineer consultant which the Cities of Grand Forks, East Grand Forks, and the Grand Forks Air Force Base will probably have to provide. **81**

5. The Department comments on the July Plan of Study requesting a breakdown of the costs of the Wastewater Management Study by category which has not been provided. **82**

6. Throughout the work outline it is indicated that quantity and quality of flows will be estimated. For a study of this magnitude these quantities should be the reuslt of measurements of quality and flow. **83**

In addition, the following specific comments are offered:

Water Supply Study

a. Hydrologic analysis - should this be included in the flood control study - hydrology and hydraulic analysis. **84**

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

78. A general time schedule was provided in the plan of study.

79. Many work elements could not be developed further until actual study efforts had begun because of insufficient data.

80. Close coordination with those agencies conducting ongoing efforts minimized the duplication of study effort.

81. Comment noted.

82. Overall study costs were provided in the RAPM diagram in the plan of study. A more detailed cost breakdown was provided after the contract had been negotiated.

83. The studies were based on existing information and the professional competence of the consultants.

84. Concur.

a.2 and a.3 Apparently conclusions have been reached which indicate surface water reservoirs are necessary. **85**

a.4 An assessment of the reliability of surface water supplies under high flow conditions seems unneccessary. **86**

a.5 This may be duplication of studies that are already available. **87**

b.5 Any existing water treatment or distribution studies should be incorporated into the base condition. **88**

f An institutional analysis seems unnecessary for the water supply study unless regionalization of the Grand Forks, East Grand Forks facilities are under consideration. **89**

Wastewater Management Study

1.A.3.h The major overflow points for the combined sewer system should be monitored to determine the quality and quantity of these overflows for several storms. **90**

1.A.4.d Is infiltration of groundwater into a storm sewer system considered to be a problem? **91**

1.A.4.f The major discharge points for the storm sewer system should be monitored to determine the quality and quantity of these discharges for several storms. **92**

1.A.4.i There seems to be little justification for doing an infiltration/inflow study of the East Grand Forks and Grand Forks storm sewer systems. **93**

1.A.4.j Does this relate to surcharging of the storm sewer lines or to backup into residences. **94**

1.A.5.c The proper completion of this task should eliminate task outlined in a.A.5.f. **95**

1.A.6.b The small flows involved as well as the intermittent discharge from all potential sources in the study area will require tremendous resources for sampling, preservation, analyzing, and reporting. **96**

1.A.6.d The Cities of Grand Forks and East Grand Forks have probably already identified the potential high growth areas as well as identifying the areas where extensions to the sewer systems will be required. **97**

1.A.7 This entire section appears to be a duplication of the Statewide 208 Water Quality Management Plans for the States of Minnesota and North Dakota. **98**

1.B.d The major water quality factors desired should be identified. **99**

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

85. Surface reservoirs were considered as an alternative but not as a necessary part of the final solution.

86. During high-flow conditions, the quality of a surface water supply can be a problem.

87. See response 80.

88. Concur.

89. Regionalization of water supply was a consideration.

90. Concur. Monitoring completed in stage 3.

91. This work item referred to a structural problem involving infiltration and/or exfiltration.

92. Concur. Monitoring completed in stage 3.

93. See response 91.

94. This passage relates to storm sewers backing up into basements during flooding.

95. During combined sewer overflow, the two tasks will not be the same.

96. Comment noted.

97. Concur. This information was used in the urban study planning process.

98. Coordination was maintained with the proper agencies (especially the NDDH and MPCA statewide 208 planning efforts) to minimize duplication of study effort.

99. Concur. The major water quality factors were identified by the consultant.

As was indicated previously, we were unable to submit the requested information by January 28, 1977.

Sincerely,

Raymond Rolshoven
Assistant Director

RR:ff

Advisory Council on
Historic Preservation
1522 K Street N.W.
Washington, D.C. 20005

February 10, 1977

Colonel Forrest T. Gay, III
Corps of Engineers, Department of the
Army
1135 U. S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

Thank you for your request of February 2, 1977 for comments on the plan of study for the Grand Forks-East Grand Forks Urban Water Resources study.

Pursuant to our responsibilities under Section 102(2)(C) of the National Environmental Policy Act of 1969 and the Council's "Procedures for the Protection of Historic and Cultur l Properties" (36 C.F.R. Part 800), we have determined that your draft environmental statement appears procedurally adequate; however, we have the following substantive comments to make:

100 Our area of interest is addressed under "archeological studies" on page 72. This heading leads one to believe that only archeological sites that are listed in or are eligible for listing in the National Register of Historic Places will be investigated. The Council recommends that this section be titled "Historic and Archeological Studies," or a separate section be included that indicates the manner in which properties of historic, architectural and cultural significance will be studied.

101 The proposed plan of study does not detail the extent to which the Corps of Engineers intends to identify "all cultural resources" beyond a "literature and records search." It is possible that in order to insure a complete "identification of resources", as required in Part 800.4(a) of the Advisory Council procedures (36 C.F.R. Part 800), a survey may need to be undertaken to determine the significance of potential cultural resources.

102 The Council is pleased that the Historic P eservation Officers for Minnesota and North Dakota will be consulted. To ensure proper evidence of a comprehensive review of cultural and historical resources, we recommend that any subsequent environmental impact statement prepared by the Corps on this, or any other project contain written evidence of contact with the appropriate State Historic Preservation Officer(SHPO).

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

100. This was an oversight. All historic, architectural, and archaeological resources were considered during project planning.

101. A literature search and record review and a reconnaissance level survey were conducted during stage 3.

102. Concur. See Minnesota Historical Society letters, 5 May 1977 and 22 August 1977. See North Dakota State Historical Society letter, 4 March 1977.

Should you have any questions on these comments or require any additional assistance, please contact Joseph P. Hough of the Advisory Council staff at 202-254-7768.

Sincerely yours,

John D. McDermott
Director, Office of Review
and Compliance

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

United States Department of the Interior

NATIONAL PARK SERVICE
MIDWEST REGION
1709 JACKSON STREET
OMAHA, NEBRASKA 68102

IN REPLY REFER TO:

L54 MWR DCL

Colonel Forrest T. Gay, III
District Engineer
St. Paul District, Corps of Engineers
1135 U. S. Post Office & Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

Thank you for the opportunity of reviewing and commenting on your Plan of Study for the Grand Forks-East Grand Forks Urban Water Resources Study.

As indicated in your February 2 letter, East Grand Forks is in the Midwest Region whereas Grand Forks is in the Rocky Mountain Region of the National Park Service. Accordingly, our comments reflect only the East Grand Forks portion.

There are no established or studied units of the National Park System or properties under study or designated as National Historic, Natural, or Environmental Educational Landmarks within the study area.

We were pleased to note that archeological and other cultural values are recognized in the plan as well as coordination with the State Historic Preservation Officer.

103

Sincerely yours,

Merrill D. Beal

Merrill D. Beal
Regional Director

cc:
Regional Director, Rocky Mountain Regional Office

103. Comments noted.

Environmental Control

DIVISION OF WATER SUPPLY
AND POLLUTION CONTROL

NORMAN E. PETERSON, P.E.
DIRECTOR
701 224-2354

North Dakota State

JONATHAN B. WEISBUCH, M.D.
STATE HEALTH OFFICER

W. VAN HEUVELEN, CHIEF
ENVIRONMENTAL CONTROL

Department of Health

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

February 16, 1977

Department of the Army
St. Paul District
Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Re: Grand Forks - East Grand Forks
Urban Water Study

ATTENTION: Colonel Forrest T. Gay III

Gentlemen:

On February 15, 1975, Mr. Martin McCleery of your staff and the undersigned reviewed the comments contained in our letter of February 8, 1977. This letter contained our comments on the Stage II Work Plan Outline for the above-referenced Project.

All of the comments were reviewed and an understanding was reached. Mr. McCleery indicated that the Stage II Work Plan Outline would be modified in the near future as a result of our meeting and other Project needs. This Department would appreciate receiving a copy of the Revised Stage II Work Plan Outline. This Department would also appreciate receiving a copy of the monthly time schedule. **104**

The undersigned wishes to be designated as serving on the water supply and wastewater management portions of the study.

Sincerely,

Raymond Rolshoven, P.E.
Ass't Director

RR/tjq

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

104. Comment noted.

United States Department of the Interior
NATIONAL PARK SERVICE
ROCKY MOUNTAIN REGIONAL OFFICE
655 Parfet Street
P.O. Box 25287
Denver, Colorado 80225

IN REPLY REFER TO
N30+3 (RMR)CF

FEB 18 1977

Colonel Forrest T. Gay, III
District Engineer
Department of the Army
St. Paul District, Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

We wish to thank you for forwarding to our attention the Grand Forks - East Grand Forks Urban Water Resources Study, prepared by the U.S. Corps of Engineers and inviting our comments. The comments that follow are made on a technical assistance basis, and we hope they will be of help to you.

Page 72 - Archeological Studies

Caution should be exercised to ensure that the most current listing of the National Register of Historic Places, as published in the Federal Register, and all monthly supplements are consulted whenever some form of construction activity is anticipated. Such action is needed, because the addition of new sites results in changes to the listing of cultural resource sites.

105

The cultural resource literature and records search that will be conducted does not relieve the undertaking agency from responsibility to survey terrain that will be disturbed during construction activities. In this connection, we cite Executive Order 11593, Sections 1(3), 2(a), and 2(b). In order to ensure that archeological sites in the area are identified, as the plan of study states, a professional survey for archeological resources will be needed. Only if it is possible to document the fact that there are no archeological remains in the development area through reference sources or the statement by a professional archeologist that in his judgement the likelihood of finding archeological remains is minimal, do we consider a professional survey in advance of construction unnecessary.

106

More could also have been said in the section titled Archeological Studies concerning the procedures that will be followed when previously

107

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

105. Concur.

106. A reconnaissance level field survey was conducted during stage 3.

107. Concur.

unknown archeological resources are encountered during a given construction activity. There should be specific guidelines for immediate work stoppage, notification of the appropriate State Historic Preservation Officer, and evaluation by a professional archeologist for possible excavation, if warranted. Whatever action is taken should provide to the maximum extent possible for mitigation of all noted project-related adverse impacts upon such cultural resources and be in compliance with the Advisory Council on Historic Preservation "Procedures for the Protection of Historic and Cultural Properties" (36 CFR, Part 800).

We are grateful for your interest and appreciate the increased concern the Corps of Engineers displays for the protection of cultural resource sites.

Sincerely yours,

Glenn T. Bean
Deputy Assistant Director

for Lynn H. Thompson
Regional Director
Rocky Mountain Region

50

State Historical Society
of north dakota

March 3, 1977

Norman C. Hintz
Lieutenant Colonel, CE
Acting District Engineer
Department of the Army
St. Paul District, Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Re: PLAN OF STUDY, GRAND FORKS - EAST GRAND FORKS URBAN WATER RECOURCES STUDY

Dear Sir:

51

As requested, the North Dakota State Historic Preservation Office (State Historical Society of North Dakota) has reviewed the above referenced materials provided by your office. Our comments are as follow:

Our concern is that proper recognition of problems revolving around conservation of cultural resources be adequately addressed. In the report, cultural resource management problems are addressed in the last paragraph of page 67. This states "Any archeological sites in the area will be identified and their historical and cultural significances will be documented". These questions arise:

1. Why will only archeological sites be identified? Historical and architectural resources must also be taken into account. What effects, for example, would proposed work on English Coulee have on Oxford House, a site listed on the National Register of Historic Places. **108**

2. Will there be on on-the-ground survey to identify archeological sites and other cultural resources? A literature and records search will not, alone, suffice to identify archeological sites and may not be sufficient to identify other culturally significant resources. **109**

3. What "area" is referred to? The entire study area (as defined by the map on page 8 of the study) encompasses 420 square miles. Will data be gathered from the entire study area, or just from specific project areas? This needs to be explained more explicitly. **110**

108. All historic, architectural, and archaeological resources were considered during project planning.

109. A reconnaissance level field survey was conducted during stage 3.

110. A literature search and record review was conducted for the area encompassing the cities of Grand Forks and East Grand Forks. A reconnaissance level field survey was conducted along English Coulee in Grand Forks.

Archeologic (sic) and historic sites are identified as "Cultural and Economic" on page E-6. Data will be gathered for "an inventory document." The status of our current knowledge concerning cultural resources in the study area is not sufficient to formulate an adequate depiction of the entire inventory of cultural resources from existing records. New and additional data will have to be generated. We suggest that historical and archeological studies at several levels be conducted to begin generation of the needed data. Literature and records searches will be a good beginning, but we suggest that intensive archival work in North Dakota, Minnesota and Canada may be necessary to adequately document the history of the area, and that on-the-ground searches for archeological, architectural and historic sites may have to be conducted to gather sufficient data for evaluation.

111

Sincerely yours,

James E. Sperry
State Historic Preservation Officer

John Ludwickson
Survey Archeologist

JL/je

52

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

111. A literature search and record review and reconnaissance level field survey were conducted during stage 3.

Environmental Control

DIVISION OF WATER SUPPLY
AND POLLUTION CONTROL

NORMAN L. PETERSON, P.E.
DIRECTOR
701) 224-2354

North Dakota State

Department of Health

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

JONATHAN B. WEISBUCH, M.D.
STATE HEALTH OFFICER

W. VAN HEUVELEN, CHIEF
ENVIRONMENTAL CONTROL

March 11, 1977

Department of the Army
St. Paul District
Corps of Engineers
1135 U.S. Post Office and
Custom House
St. Paul, Minnesota 55101

Re: Grand Forks - East Grand Forks
Urban Water Study

Attention: Colnel Forrest T. Gay III

Gentlemen:

The Stage One Public Information publication has been reviewed by this Department. This Department would appreciate being informed as to the locations of the "dumping of raw sewage into the Red River". The statement appears to indicate that this is an everyday occurrence. **112**

Our letter of February 16, 1977, requested a copy of the Revised Stage II Work Plan for this project. Mr. McCleery had indicated that information regarding Item No. 5 in our letter of February 3, 1977, would be forthcoming. These items have not been received. **113**

Sincerely,

Raymond Rolshoven, P.E.
Assistant Director

RR:nb

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

112. The "dumping of raw sewage into the Red River" refers to a local view regarding the bypassing of combined storm and sanitary sewer water to the Red River.

113. The revised scopes of work were sent later, but item No. 5 of the 8 February 1977 letter was not available until after contract negotiations had been completed.

NorthWest Regional Development Commission

425 Woodland Avenue · Crookston, Minn. 56716 · 218-281-1996

March 28, 1977

George W. Skene
Acting Chief, Planning Branch
Engineering Division
Corps of Engineers St. Paul District
1135 U.S. Post Office and Custom House
St. Paul, MN 55101

Dear Mr. Skene,

The purpose of this letter is to inform you of my reaction to the draft Social and Environmental Inventory (Grand Forks-East Grand Forks Urban Study) which I recently received for review.

I believe that the document is generally well written and contains a great deal of useful information, however, I skimmed those areas with which I have little background.

I offer the following comments:

1) Plates 1 and 2 - it may be more helpful to the reader if you would make use of gray tones and/or patterns or some other means of highlighting the different categories. The maps are confusing in that the soils data is superimposed on a relatively detailed base map. **114**

2) Plate 3 - because of the use of a somewhat detailed base map, Plate 3 as it currently exists contains a great deal of visual static. Without going to color, my suggestion would be to eliminate some of the irrelevant base map data. Also, highlight the drainage areas more as they should be of primary importance to a map such as this. **115**

3) Figure 11 page 21 - a wind rose based on the annual wind conditions is fine but it should be complimented with a separate wind rose for at least each season so that these differences can also be noted. **116**

4) Table 2 page 11 - I believe Minnesota's F.C. standard should be 200 not 250, and North Dakota's Turbidity and F.C. standards may be in the process of revision. **117**

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

114. Comment noted.

115. Comment noted.

116. Comment noted.

117. Concur.

5) Plate 10 - Table 26 should be placed directly following the Plate. If it remains as is, the page number should be included in the reference on Plate 10. Frankly, the listing of numbers is meaningless to me, taking on the appearance of a calendar. I would suggest using two maps. One for the rural areas and one of a sufficiently large scale so that each recreation facility within each city can be located and referred to by number - referring the reader to Table 26 for a description of each facility. **118**

118. Comment noted.

6) Why are Plates 9 and 10 out of order? Again when referencing a table that is more than one page before or after the map (Plate 9) I suggest indicating the page number. **119**

119. This error was corrected.

7) I like the idea of displaying socio-economic and demographic data with histograms for each census tract. I'll keep this technique in mind for my own work. **120**

120. Comment noted.

8) Why was reference to a high school education omitted from Plates 14 and 15? **121**

121. Comment noted. A more detailed breakdown would be helpful.

9) Page 79 - Taxes - it may be helpful to explain what is meant by "mill levy" since the different levies are mapped on Plate 16. Without an understanding of the terminology, Plate 16 is meaningless. **122**

122. Concur. Text revised to define "mill levy."

I trust these comments will be of use to you.

Respectfully yours,

Randall L. Johnson
Recreation Planner

dc

55

Environmental Control

DIVISION OF WATER SUPPLY
AND POLLUTION CONTROL

NORMAN L. PETERSON, P.E.
DIRECTOR
TEL. 224-2354

North Dakota State

Department of Health
Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

JONATHAN B. WEISBUCH, M.D.
STATE HEALTH OFFICER

W. VAN HEUVELEN, Chief
ENVIRONMENTAL CONTROL

April 4, 1977

Department of the Army
St. Paul District Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

ATTENTION: George W. Skene
Planning Branch

Gentlemen:

This Department has reviewed the draft Social and Environmental Inventory for the Grand Forks-East Grand Forks Urban Water Resources Study and has the following comments:

1. This Department does not agree with the statement on page 11 that, "The most serious water quality problems are caused by municipal and industrial waste discharges. Feedlot runoff, and fertilizers to a relatively minor extent, are also contributing factors." Previous studies in agricultural areas have indicated that non-point sources contribute a large majority of the nutrient loading of a stream and can contribute substantial loading of other pollutants. This Departme... would be interested in reviewing data which the Corps of Engineers may have to support the statement in the report. **123**

2. This Department is in the process of promulgating revised Water Quality Standards which will become effective in May, 1977. A copy of these revised standards is enclosed. **124**

3. A Section 201 Facilities Plan for the City of Thompson has been prepared and has been approved by this Department. The plan is currently being reviewed by the Environmental Protection Agency and hopefully the Project will be under construction sometime this summer. **125**

4. The City of Emerado's lagoon system is designed for a flow of approximately 25,000 gallons/day. **126**

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

123. Text revised to read, "Localized water quality problems are caused in part by municipal and industrial waste discharges. Feedlot runoff and fertilizers are also contributing factors. Nonpoint sources contribute a majority of the nutrient loading in these rivers and a substantial portion of other pollutants."

124. Comment noted.

125. Comment noted.

126. Comment noted.

5. On Page 43, the discussion of Public Law 92-500 does not mention Section 208 of that law which deals with non-point sources of pollution. This paragraph should be revised to include a discussion of the 208 Planning Process and its goals. **127**

6. The discussion of the City of Grand Forks' sewage treatment system in the Transportation and Utilities section should be revised to indicate that all pre-treatment is by aeration and that part of the expansion plans calls for adding further aeration. **128**

Sincerely,

Keith Demke
Env. Engineer

KD:tj

127. Section 208 was addressed in the stage 2 portion of the Wastewater Appendix.

128. Concur.

MINNESOTA HISTORICAL SOCIETY
Fort Snelling Branch (Building 29) Fort Snelling St. Paul Minnesota 55111 • 612-726-1171

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

5 May 1977

Colonel Forrest T. Gay
District Engineer
Corps of Engineers
St. Paul District
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

RE: Grand Forks - East Grand Forks
Urban Water Resources Study

Thank you for the opportunity to review you Plan of Study. Inasmuch as specific proposals have not yet been formulated, our comment regarding impacts on cultural resources would be premature. I am certain that the Corps will evaluate any cultural resources that may be impacted with the care and consideration we have come to expect from this agency. If this office can be of assistance after a plan has been developed, do not hesitate to contact us.

129

Sincerely,

Russell W. Fridley
State Historic Preservation Officer

RWF/fr

129. Comment noted.

Environmental Control

DIVISION OF WATER SUPPLY
AND POLLUTION CONTROL

NORMAN E. PETERSON, P.E.
DIRECTOR
TEL. 224-2354

North Dakota State

Department of Health

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

JONATHAN B. WEISBUCH, M.D.
STATE HEALTH OFFICER

W. IAN McLEOD, CHIEF
ENVIRONMENTAL CONTROL

July 1, 1977

Department of the Army
St. Paul District Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

Re: Grand Forks-East Grand Forks
Urban Water Resources Study

ATTENTION: Mr. Martin McCleery

Gentlemen:

The proposed Scope of Work for Stage 2 Water Quality Survey, Grand Forks-East Grand Forks Urban Water Resources Study has been reviewed and the following comments are offered:

1. The magnitude of the study as outlined is conside ably larger than had what had been discussed previously. **130**

2. The North Dakota State Department of Health will not have personnel to prepare the report as indicated on Page 11. **131**

3. The North Dakota State Department of Health does not have any available samplers or glass containers for use in the study. **132**

4. It was not indicated, but we are assuming that the Corps of Engineers will provide the transportation of the samples to be analyzed by our laboratory in Bismarck. **133**

5. Our laboratory facilities are not equipped to the tin and total reduced nitrogen analysis. Further, the pesticides category should be for specific pesticides or eliminated. **134**

7. The measurements of dissolved oxygen, temperature, and pH would apparently be made by the field crews. **135**

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

130. This issue was resolved at a meeting in Grand Forks on 27 July 1977. At the meeting a general discussion pointed out that the proposed scope of work was too broad and that funding and inadequate personnel restricted carrying out a survey of such detail. However, opinion indicated that an initial survey of reduced scope was desired and could be accomplished in 1977. The purpose of the survey would be to determine if the impacts of combined sewers in Grand Forks are significant enough to warrant a detailed survey. Mr. Keith Demke, engineer, North Dakota State Health Department (NDSHD), and Mr. Tom Little, engineer for the city of Grand Forks, indicated that they would coordinate staff schedules for carrying out the survey, analyze the water quality, and report the results.

131. Results of the survey (see response 140) were provided to Stanley Consultants and were incorporated into the stage 2 report of the Wastewater Appendix.

132. At the 27 July 1977 meeting (see response 130), it was also decided that Mr. Demke would provide sampling bottles, instructions, etc., to Mr. Tom Little, city of Grand Forks, who collected the water samples and flow data.

133. Lab services were coordinated between the NDSHD, city of Grand Forks, and public health labs to carry out various analyses on the water samples.

134. See response 134.

135. Concur.

8. The City of Grand Forks laboratory facilities should be contacted for the analysis for biochemical oxygen demand, chemical oxygen demand, and total oxygen demand.

9. Separate containers will be required for the fecal and fecal strep samples. If a parameter was to be eliminated in this category, it should be the fecal strep as these are not included in the Water Quality Standards.

Sincerely,

Raymond Rolshoven

Raymond Rolshoven, P.E.
Ass't Director

RR:tj

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

136 136. See response 133.

137 137. Concur.

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

P. O. Box 1458, Bismarck, [illegible] 5850[illegible]

July 11, 1977

Mr. [illegible]
Study Manager
Grand Forks-East Grand Forks
Urban Water Resources Study
Corps of Engineers St. Paul District
1135 U.S. Post Office and Custom House
St. Paul, MN 55101

Dear Mr. [illegible]:

We have reviewed the Leisure Time Study, inclosed with Mr. Dalton's letter of June 23, 1977.

138 The statement on page 9; "This analysis indicates that a number of activity needs will undoubtedly never be fulfilled.", is not at all surprising when the study was confined to a 14 township recreation market area.

139 It should be recognized that had the study been expanded to include a 50 mile radius, this would make a tremendous difference in inventory and projected needs. A 50 mile radius is not entirely unreasonable, even in consideration of present concerns for energy conservation.

Sincerely,

[illegible]
Planning Staff Leader

138. Comment noted.

139. Comment noted.

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Area Office - North Dakota
1500 Capitol Avenue
P. O. Box 1897
Bismarck, North Dakota 58501

JUL 20 1977

Colonel Forrest T. Gay, III, District Engineer
St. Paul District, Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Re: NCSED-PB
Grand Forks - East Grand Forks
Urban Water Resources Study

Dear Colonel Gay:

We have reviewed the subject report for accuracy of information. Our comments are restricted to the North Dakota portion of the area. The following corrections are provided for Table 39, page 79, and elsewhere on page 79. The title "Public Land Ownership" for Table 39 is misleading since easements are included. They constitute a land interest. However, lands with easements are in private ownership. Land rights for the U.S. Fish and Wildlife Service include, as of June 15, 1977: **140**

For the entire county of Grand Forks, 4,408.92 acres of Waterfowl Production Areas are in fee title (including 359.29 acres within the boundary of Kellys Slough NWR) and 867 wetland acres are under easement for Waterfowl Production rights. The wetland easements and some of the fee title Waterfowl Production Areas are located outside of the study area. **141**

Kellys Slough NWR totals 1,620 acres. This figure includes 680 acres of public domain land, 359.29 acres of land purchased under the Waterfowl Production Area program, and 580.71 acres of privately owned land under easement for National Wildlife Refuge purposes. **142**

The rest of the material on Biological Elements is basically accurate. The inclusion of the eastern meadowlark on page 47 as a representative species is questionable. It is not a common resident in North Dakota. The values of wetlands, their scarcity in the study area, and the continuing threat to these ecosystems are all recognized in the report. **143**

The supplemental report on data deficiencies indicates in several places that an apparent lack of interest in the Red River Valley fish **144**

62

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

140. Concur. Title changed to "Public Land Ownership and Easements" in later draft.

141. Concur.

142. Concur.

143. Concur. References to the eastern meadowlark were deleted from later drafts.

144. Comment incorporated in the discussion of data deficiencies in final draft.

and wildlife resources exists on the part of wildlife officials. As far as the Fish and Wildlife Service is concerned, the situation should not be characterized as a lack of interest. Instead, existing data deficiencies are a result of area priorities based on the relative occurrence of fish and wildlife habitat in the study area.

Sincerely yours,

Wm. Aultfather
Area Manager

cc: Devils Lake WMD
Regional Director, Denver (AENV)
North Dakota Game and Fish
Department (Attn: L. Kruckenberg)
Twin Cities Area Office, St. Paul

United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
P. O. Box 778
Bismarck, North Dakota 58501

August 1, 1977

Forrest T. Gay, III
Colonel, Corps of Engineers
District Engineer
St. Paul District
Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

Attached is a list of review comments and questions we have concerning the report on the Grand Forks-East Grand Forks Social and Environmental Inventory Urban Water Resources Study you sent us on 5 July 1977. The review was made by Oren Holmen, hydrologist-in-charge of our Grand Forks office, and myself. Our review was concerned primarily with the section on water resources.

We were much impressed with the overall format of the report and believe it should be an effective means of public communication.

Sincerely yours,

Q. F. Paulson
Acting District Chief

cc: Oren Holmen

QFP:lab

Review of Geology and Water Resources Sections of Urban
Water Resources Study for Grand Forks-East Grand Forks

Reviewer - Oren O. Holmen (Hydrologist)

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

Geology

On page 6, Physiographic Elements, the author says in the second paragraph, "Maximum depth of Lake Agassiz sediments, clay and silt, is about 96 ft." From Geology and Ground Water Resources of Grand Forks Co., page 26, under clay and silt, they found clay and silt to a depth of 155 ft. Test well 1959, in SW1/4 sec. 36, T. 149 N. R. 51 W. **145**

145. Concur. Text revised in later draft.

In the third paragraph, midway page 6, he says, "Depths of the Ordovician and Cretaceous systems under the Grand Forks study area vary from around 800 ft to less than 20 ft from west to east, as shown in Figure 4." Figure 4 does not show that. The depths are about right, however. **146**

146. Concur. Text revised to "Figure 4 identifies the systems and their depths for a general stratigraphic column of Grand Forks County."

Water Resources

Surface Waters

On page 12, first paragraph the author says the U.S. Geological Survey stream gage is located 2 mi. downstream of the city. It is on the North edge of the city, 2.3 mi downstream of the Red Lake River. **147**

147. Concur. Text revised in later draft.

There is a mistake, I believe, in the drainage area for the Turtle River. He says it is 114 sq. mi (Page 12, first paragraph). We are reporting 613 sq. mi. **148**

148. Concur. Text revised in later draft.

CFS (cubic feet per second) is used throughout the report. Since the USGS has gone to ft^3/s the Corps may want to change also. **149**

149. Comment noted.

On page 12, second paragraph, it is stated, "Mean annual flow of the Red Lake River at East Grand Forks is about 2,000 cfs, with recorded minimum and maximum flows of 0 cfs (July 1960) and 28,400 cfs (Apr. 1969), respectively." I believe that 2,000 ft^3/s is quite high as Crookstons average is only 1116 ft^3/s. It looks as though the maximum and minimum were taken from the Crookston gage as they are the same and there is no recording gage in East Grand Forks. **150**

150. Concur. Text revised in later draft.

Table 3, page 13, Oxygen is misspelled. **151**

151. Concur. Misspelling was corrected in later draft.

Page 14, table 4, Iron is reported to three significant figures. Is this warranted? **152**

152. Figures taken from the North Dakota Geological Survey.

Page 15, What is the "major flood control project" completed on Sheyenne River at junction with Red River at Fargo? **153**

153. The reference to the "Red River at Fargo" denoted the location of the Sheyenne River convergence with the Red River, not the location of a reservoir project which is upstream on the Sheyenne River. This reference was later deleted.

On page 19, figure 7, Major Flood Data. I do not know where the elevation of the 1897 flood was obtained from, but if it is based on the gage datum of 778.4' as it looks that makes it a gage height of 49.3 ft. We are reporting a gage height of 50.2 ft for that flood. Also, there is a difference of 0.2 and 0.1 ft respectively in the elevations of the 1950 and 1969 floods as reported by the USGS. **154**

154. The gage was relocated to a site at a different flood stage than the original site. All reported flood elevations were corrected to the present site on the basis of rating curve corrections supplied by USGS.

Ground Water

This section looks OK to me. **155**

155. Comment noted.

Review of Grand Forks and East Grand Forks Social
and Environmental Inventory report

Reviewer - Q. F. Paulson (Hydrologist)

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

Figure 2, page 4 - Why is the Red River ended at the International Boundary? **156**

156. Figure revised in final draft to show Red River in Canada.

Page 13 - Groundwater - Line 3 - What is difference between "highly mineralized" and "moderate to high salinity"? These terms usually are regarded as synonymous. **157**

157. Concur. Statement deleted in final draft.

Line 6 - Dakota aquifer is not part of the Ordovician System; it is Late Cretaceous. **158**

158. Concur. Revision made in final draft.

Figure 5 - Why the difference in reporting of yields? i.e. quantified (5-50 GPM) on Minnesota side but described qualitatively on North Dakota side. Reference 3 (Ground Water Resoures of Grand Forks County) contains an availability map that describes ground water availability in quantified yields--more than 500 gpm, 250-500, 50-250, 10-50, and less than 10 gpm. Also the Elk Valley and Inkster aquifer should not be described as "possible aquifer locations". These aquifers are very well defined by a large number of test holes and observation wells. **159**

159. Concur. Text revised to reflect comment.

Page 14 - The ground-water quality discussion is somewhat misleading. There is a tendency to equate hardness with salinity. These are two separate and distinct properties of water. For example, the D.S. of 350 ppm in the Inkster aquifer refers to total dissolved solids (salinity) not hardness, which would be somewhat less than 300 ppm. **160**

160. Concur. Text revised to reflect comment.

Second paragraph, line 4. "It is of medium to high salinity and low sodium content." This statement pertains to a classification for irrigation use and perhaps it should be so stated. **161**

161. Concur. Text revised to distinguish between hardness and salinity.

Appendix III (References)

Why the inconsistency in reporting references? Some are referenced by agency and others by author. For example, references 1, 2, and 3 at least, have authors and should be so referenced. **162**

162. Comment noted.

MINNESOTA HISTORICAL SOCIETY
690 Cedar Street, St. Paul, Minnesota 55101 • 612-296-2747

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

22 August 1977

Colonel Forrest T. Gay
District Engineer
St. Paul District
Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

RE: Grand Forks-East Grand Forks
Urban Water Resources Study
NCSED-PB

Thank you for the opportunity to review the Grand Forks-East Grand Forks Urban Water Resources Study Social and Environmental Inventory. The list of historical and archaeological sites in the Minnesota portion of the project appears to accurately reflect our current state of knowledge. We would, however, anticipate that further cultural resource surveys may be necessary as the plan progresses. **163**

Sincerely,

Russell W. Fridley
State Historic Preservation Officer

RWF/fr

163. Comment noted.

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

The University of North Dakota
GRAND FORKS 58201

DEPARTMENT OF SOCIOLOGY

TELEPHONE: (701) 777 2187

August 24, 1977

Mr. Martin McCleery
Corps of Engineers/St. Paul District
1135 U.S. Post Office and Customs House
St. Paul, Minnesota 55101

Dear Mr. McCleery:

I have received and reviewed the draft report from Stanley Consultants entitled "Water Supply Study-Problem Identification." The study area is correctly delineated in the opening pages of the report. The population figures employed are, however, not in accord with those recently submitted by me. I am sure you are aware of the problem in timing and may wish to call their attention to the newer projections. **164**

Sincerely,

Richard L. Ludtke

Richard L. Ludtke, Ph.D.

RLL/jl

164. Projections revised to correspond with newly submitted data.

NORTH DAKOTA
STATE HIGHWAY DEPARTMENT

CAPITOL GROUNDS BISMARCK, NORTH DAKOTA 58505

R. E. BRADLEY
Chief Engineer

ARTHUR A. LINK
Governor of North Dakota

WALTER R. HJELL
Commissioner

August 26, 1977

Col. Forrest T. Gay III
District Engineer
St. Paul District, Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, MN 55101

SUBJECT: NCSED - PB

We have reviewed your Departments "Social and Environmental Inventory Report Grand Forks - East Grand Forks Urban Water Resource Study".

Based on the Supplemental Report, we generally agree with the information provided.

The following information is being offered in hopes that it may help you to strengthen the deficient areas identified in your Supplemental Report.

69

FLORA

The proper use of plant names - even common names - requires adherence to established rules of Plant Nomenclature. Accordingly, species names (Elm, Ash, Juniper, etc.) should begin with a capital letter; names such as Boxelder and Buffaloberry should not be separated. **165**

Examples:

Spelling Used in Paper	Correct
Green ash	Green Ash
American elm	American Elm
Box elder	Boxelder
Scotch pine	Scotch Pine
Colorado blue spruce	Colorado Blue Spruce
Rocky Mountain juniper	Rocky Mountain Juniper
Siberian (Chinese) elm*)	Siberian Elm
Dropmore (Manchu) elm	Dropmore Elm
Bur oak	Bur (or Burr) Oak

165. Comment noted.

Spelling Used in Paper	Correct
Russian olive	Russianolive
Black Hills spruce	Black Hills Spruce
Ponderosa pine	Ponderosa Pine
Eastern red cedar	Eastern Redcedar
Aromatic sumac	Fragrant Sumac
Wild plum	American Plum
Siberian crabapple	Siberian Crabapple
Buffalo berry	Buffaloberry
Golden currant	Golden Currant
Nankin (Chinese) cherry	Nanking Cherry **)
Potent illa	Potentilla
Highbush cranberry	Highbush Cranberry

*) The designation "Chinese Elm" should be dropped entirely. It is a misnomer, the continued use of which will only perpetuate the existing confusion. The true Chinese Elm (Ulmus parvifolia Jacq.) is a fall flowering species, and is not considered hardy in the Northern Great Plains. **166**

166. Concur. Reference to the Chinese elm was deleted in the final appendix.

) The correct name would be Manchu Cherry; however, the name "Nanking Cherry" has become firmly established in both the trade and public usage, and is used in the literature almost exclusively to describe Prunus tomentosa Thunb. **167

167. Concur.

Terminology:

Table 15 lists under the heading "Shelterbelt Shrubs" species such as Russianolive and Siberian Crabapple. Both are essentially trees, frequently reaching 35 feet in height. Hence, they should not be listed under "shrubs". **168**

168. Comment noted.

As far as is known, Potentilla is not used as a shelterbelt shrub in North Dakota. This non-competitive dwarf ornamental is native to the open grassland range of western North Dakota, and is ill suited for use in shelterbelts in the eastern part of the State. Also, specimens or clusters of Highbush Cranberry, Dogwood, Sandcherry and Fragrant Sumac might be found occasionally in shelterbelts - usually seeded by wildlife - but are not typical shelterbelt shrubs, and should not be listed as such. **169**

169. Concur. Potentilla was deleted from the final list.

The paper states (p. 15) that "Urban shrubs have the least diversity". The facts are exactly opposite. Due to the influx and widespread usage of both exotics and improved selections of native species and varieties, the urban plantings contain an **170**

170. Concur. Passage was deleted in final draft.

extremely wide assortment of shrubby material, far more diversified than the usually monotonous and repetitive assortment of tree and shrub species found in the shelterbelts.

FAUNA

A technical review with state fisheries specialists should have provided more information on the existing fishery values or potential importance of these rivers and associated creeks. Also, since the University of North Dakota is at Grand Forks, I expected this study to reflect their expertise on aquatic flora and fauna including an analysis of ecosystem trends. A brief description on ecosystem theory with elementary ecological principle would be useful to biologically untrained city - county planners.

171

171. The study was reviewed by the U.S. Fish and Wildlife Service, the University of North Dakota, North Dakota State Water Commission, and Minnesota Department of Natural Resources.

The map on page 6 provides a general idea of what wildlife habitat is available. To gain a better perspective, it would have been helpful if some quantitive data were presented such as miles of major rivers, woodland area, natural and artificial wetland areas, etc.

172

172. Comment noted.

We would appreciate receiving any further revisions or the final report for this project. Continued coordination will ensure that both our Departments will consider each others plans in any undertaking.

Thank you for the opportunity to comment on this report.

NORTH DAKOTA STATE HIGHWAY DEPARTMENT

Walter R. Hjelle
Commissioner

jmp

Environmental Control

DIVISION OF WATER SUPPLY
AND POLLUTION CONTROL

NORMAN L. PETERSON, P.E.
DIRECTOR
701) 224-2354

North Dakota State

Department of Health

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

JONATHAN B. WEISBUCH, M.D.
STATE HEALTH OFFICER

W. VAN HEUVELEN, CHIEF
ENVIRONMENTAL CONTROL

September 2, 1977

Mr. J. R. Calton
Chief
Planning Branch
Army Corps of Engineers
1135 US Post Office and Customhouse
St. Paul, Minnesota 55101

Dear Mr. Calton:

We have received and reviewed the draft report entitled "Water Supply Study - Problem Identification". We have no comments about this Report at this time. **173**

72

Sincerely,

Michael R. Parsons

Michael R. Parsons
Environmental Engineer

MRP:dmb

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

173. Comment noted.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P. O. Box 1458, Bismarck, ND 58501

September 6, 1977

J. R. Calton
Chief, Planning Branch
Engineering Division
Corps of Engineers/St. Paul District
1135 U.S. Post Office & Custom House
St. Paul, MN 55101

Dear Mr. Calton:

I have reviewed the draft reports, "Water Supply Study - Problem Identification" prepared by Stanley Consultants, Inc., inclosed with your letter of August 18, 1977, and the draft stage II demographic report for the Grand Forks-East Grand Forks Urban Water Resources Study prepared by Dr. Richard Ludtke, inclosed with your letter of August 26, 1977.

The draft reports are individually quite complete and should provide a basis for future resource planning.

It would have been convenient if the reports had been totally coordinated, then population figures appearing on Page 6 of the draft demographic report would check with the figures on Page 22 of the draft Water Supply Study - Problem Identification report.

174

Sincerely,

Lynn R. Bereuter

Lynn R. Bereuter
RB&WPP Staff Leader

174. The population figures in the Water Supply Appendix have been revised to agree with the stage 2 demographic report.

Environmental Control

DIVISION OF WATER SUPPLY
AND POLLUTION CONTROL

NORMAN L. PETERSON P.E.
DIRECTOR
701- 224-2354

North Dakota State

Department of Health
Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

JONATHAN B. WEISBUCH M.D.
STATE HEALTH OFFICER

W. VAN HELIVELEN CHIEF
ENVIRONMENTAL CONTROL

September 9, 1977

Department of the Army
St. Paul District
Corps of Engineers
1135 U.S. Post Office
& Custom House
St. Paul, MN 55101

ATTENTION: J.R. Calton, Chief
Planning Branch
Engineering Division

Re: Grand Forks-East Grand Forks
Urban Water Resources Study

Gentlemen:

The draft stage II demographic report for the Grand Forks-East Grand Forks Urban Water Resources Study has been reviewed by this Division. The following comments are offered:

1. The Composite Projections for Incorporated Places within the study area, as shown on Page 6, are in general agreement with those submitted by the Red River Regional Planning Council, June 1977, with the exception of Manvel. This study indicates a population of 244 in the year 2000, whereas the Composite Projections indicates a population of 503. This disparity could have a significant impact on wastewater facility planning for the City of Manvel. **175**

2. The population projections and the trends indicated for the City of Thompson on Page 7, Study Area and Subdivision Extrapolates Projections: 2000-2030, do not appear to be compatible with the projections submitted by the Red River Regional Council or the Composite Projections for Incorporated Places as shown on Page 6. **176**

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

175. The population projections for Manvel were revised to agree with those submitted by the Red River Regional Planning Council. The reported growth in the Manvel area appears justified; however, it is not confined to the incorporated limits of Manvel.

176. The population projections for Thompson were revised to agree with those submitted by the Red River Regional Planning Council.

the usefulness of the report to the public, **177**
tions which subsequently are averaged to
numbers should be shown and identified for
place within the study area.

Sincerely,

Raymond Rolshoven

Raymond P. Rolshoven, P.E.
Assistant Director

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

177. Comment noted.

United States Department of the Interior
BUREAU OF OUTDOOR RECREATION
MID CONTINENT REGION

MAILING ADDRESS
Post Office Box 25387
Denver Federal Center
Denver, Colorado 80225

STREET LOCATION
[illegible]
Lakewood, Colorado
Telephone [illegible]

D6427

Mr. J. R. Calton, Chief
Planning Branch
Engineering Division
St. Paul District
U.S. Army Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Mr. Calton:

We have reviewed the demographic report for the Grand Forks-East Grand Forks Urban Water Resources Study and assume these projections will be approved by the local entities, as well as the Red River Regional Planning Council, prior to their use in the study. **178**

As you know, an analysis was completed earlier by utilizing the projections as shown in the plan of study. However, the final and accepted population projections will be needed for a re-evaluation of re reation demand and needs. This re-evaluation will be completed by the Bureau in Fiscal Year 1978. **179**

We appreciate the opportunity to respond to this report.

Sincerely,

Albert G. Baldwin
Assistant Regional Director
Resource Planning Services

cc w/inc: SLO, North Dakota

76

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

178. Discrepancies between the demographic report and the figures supplied by the Red River Regional Planning Council were resolved by revising the Manvel and Thompson projections (see NDDH letter, 9 September 1977, for local approval; see Grand Forks letter, 29 September 1977, and East Grand Forks letter, 4 November 1977).

179. Comment noted.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Water Resources Div.
P. O. Box
St. Paul, Minn.

September 1, 1971

T. F. Dalton
Chief, Planning Br., Engr. Div.
C.E., St. Paul District
Old U.S. Post Office & Custom House
St. Paul, Minn.

Dear Mr. Dalton,

Enclosed please find a list of review comments and questions which I have concerning the report entitled "Water Supply Study - Problem Identification", sent to me September 1, 1971.

I read the entire report for my information but my review is concerned only with section 2 - Existing and Potential Water Supply Sources.

Sincerely yours,

Irvin C. Holmen
Hydrologist-in-Charge

Enclosure
cc: Q. F. Paulson

I believe overall, the report was very [illegible]. The [illegible] water supply sources and their quality were [illegible] by the areas of concern. On page [illegible] it is stated "The mean annual flow of the Red Lake River at Crookston is 900 cfs". On page [illegible] is stated the minimum flow in the Red River of the North downstream of the confluence of the Red Lake River is 1,121 cfs. I believe he is referring to the same parameter for both statements. When reporting a figure such as this the number of years, for which it is the mean, should be included. The U.S.G.S. publication, Water Resources Data for Minnesota, water year 1976, reports the 75 year average discharge for the Red Lake River at Crookston is 1,121 ft^3/s and the Water Resources Data for North Dakota, water year 1976, reports the 94 year average flow for the Red River at Grand Forks as 2,524 ft^3/s. **180**

My other concern was with the figuring of the dependable supply of water at Grand Forks from the Red River of the North. The author says in the report current operating plans call for maintaining a minimum flow of 25 cfs at Fargo-Moorhead. With a channel loss of 10 cfs and [illegible] they will expect about 10 cfs at Grand Forks. There is no mention of the [illegible] of the Sheyenne River which enters the Red River below Fargo-Moorhead. Lake Ashtabula is one of the main reservoirs. If the [illegible] low flows all the flow in the Sheyenne will be diverted to the Red River at Fargo, thus becoming part of the 25 cfs. I believe this [illegible] the report. **181**

180. Concur. Flows were revised to those supplied by USGS.

181. Concur. The Sheyenne diversion was addressed in later drafts.

United States Department of the Interior

GEOLOGICAL SURVEY
1033 Post Office Building
St. Paul, Minnesota 55101
September 14, 1977

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

J. R. Calton
Chief, Planning Branch Engineering Division
Urban Water Resources Study
Corps of Engineers, St. Paul District
1135 U.S. Post Office Building
St. Paul, Minnesota 55101

Dear Mr. Calton:

We have reviewed the report "Water Supply Study - Problem Identification," by Stanley Consultants per your request of September 1, 1977. You may want to consider the following comments in your next draft of the report.

P. 8 — If Crookston takes ground water from the Red Lake River alluvium, probably a principal aquifer in the area, captured discharge to the river as well as potential induced ground-water recharge from the river could result in a net change in consumptive use of 0 when Crookston converts to a ground water source. **182**

182. Comment noted. The aquifer Crookston intends to withdraw groundwater from is approximately 8 miles from the Red River. It is very doubtful that the Red River would recharge this aquifer; however, some discharge may be captured by the river. Since a much larger portion of the groundwater used by Crookston will reach the Red River via the treatment facilities, discharge need not be a concern.

P. 10 — A minimum flow of the Red River at Fargo-Moorhead is stated to be 25 cfs with a 10 cfs channel loss between Fargo-Moorhead and Grand Forks, leaving 15 cfs available flow at Grand Forks. The Barr Engineering Report, "Moorhead Water Supply Study, Phase II," (July 1975) P.2 states that the EPA has determined that the 10-year frequency, 7-day duration low-flow on the Red River is 16.8 cfs, thus water cannot be withdrawn from the river which would lower the flow below this figure. How does this effect your 15 cfs figure? **183**

183. In stage 3, a low-flow frequency analysis of the Red River at Grand Forks was conducted to investigate in part the concerns expressed in this comment.

P. 16 — Typographical error "Easter" edge of Dakota aquifer..... **184**

184. Error was corrected in later draft.

P. 17, Table 4 — The Elk Valley, the major aquifer in the area, shows an estimated storage of 1,300,000 acre-ft. If the aquifer has an average thickness of 34 feet and an area of 200 square miles, it has an area of 128,000 acres and a volume of 4,352,000 acre-ft. Assuming a storage coefficient of 0.1, storage is equal to 435,200 acre-feet or about 1/3 of the 1,300,000 acre-ft as stated. **185**

185. Comment noted.

Overall	A map showing locations of cities, lakes, rivers and other geographic features mentioned in the text would be helpful in understanding the report.	**186**	186. Comment noted.

Hopefully these comments will be of use to you.

Sincerely,

FOR THE DISTRICT CHIEF

Perry O. Olcott

Perry O. Olcott
Supervisory Hydrologist

Environmental Control
DIVISION OF WATER SUPPLY
AND POLLUTION CONTROL

NORMAN L. PETERSON, P.E.
DIRECTOR
(701) 224-2354

North Dakota State
Department of Health

JONATHAN B. WEISBUCH, M.D.
STATE HEALTH OFFICER

W. VAN HEUVELEN, CHIEF
ENVIRONMENTAL CONTROL

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

September 20, 1977

Corps of Engineers
St. Paul District
1135 U.S. Post Office and
Custom House
St. Paul, Minnesota 55101

Re: Grand Forks-East Grand Forks
Urban Water Resources Study

Attention: J. R. Calton, Chief
Planning Branch

81

Gentlemen:

The Draft Report entitled "Wastewater Study-Problem Identification" has been reviewed by this Department and the following comments are offered:

Section I

The population projections prepared by others for the Grand Forks-East Grand Forks Urban Water Study should be included to provide some measure of adequacy of existing facilities as well as future needs. **187**

187. Population projections were revised in later draft.

Section 3

1. The City of Emerado wastewater treatment facilities were originally built with overflow manholes which allowed uncontrolled discharge of wastewater. **188**

188. Comment incorporated into text.

2. The effluent criteria for the City of Emerado on Table 4 should indicate 25 mg/l of BOD_5. **189**

189. Comment noted.

3. The design requirements for waste stabilization ponds in North Dakota limit the interior slope to a maximum of 3:1. Further, the discharge line is to be sized on a case by case basis rather than the 45 days of discharge per year. **190**

190. Concur. Later drafts revised to reflect comment.

4. In Table 4 the report should show a 1.76 acre secondary cell for the City of Thompson. The facility plan for the City of Thompson, prepared by K.B. MacKichan indicates the average flow in 1974-1975 was 0.035 MGD. **191**

191. Concur. Information incorporated into final draft. The 1.76 acres was later revised to 1.96 acres.

5. According to information provided to this Department by the Air Force, their facilities consist of three cells with a total area of 173 acres. **192**

192. Concur. Revision made.

6. The raw waste characteristics data, which is part of Table 4, indicates a flow of 0.3 MGD for the Air Force Base. This appears to be very low for the population being served and compared to the 1976 annual average water demand of 1.13 MGD from Table 6. **193**

193. This information was found to be unreliable and was deleted in the final draft.

7. According to information reported to this Department, Rogers Brothers is no longer discharging wastewater to the City of Grand Forks wastewater system. **194**

194. Comment noted.

8. The data in Table 5 indicates that the average wastewater flows for Interantional Co-op, Pillsbury, the State Mill, and Bridgeman, exceed the projected water demands in Table 6. Is the water demand deficit to be balanced by industry operated water supply systems. **195**

195. Report revised to include information.

9. The data in Table 5 would appear to indicate the following significant peaks: **196**

	Flow	BOD_5	TSS
	MGD	LB/Day	LB/Day
International Co-op	3.5	30,492	58,140
Pillsbury	1.56	21,611	35,119

If these peaks continue to occur will the facilities be capable of handling these loads without hydraulic and organic problems.

196. The waste load from the Pillsbury Company was revised to indicate the following peaks: flow (mgd) - 0.58; BOD_5 (lb./day) - 7,202; TSS (lb./day) - 16,245. Also, the text was changed to indicate International Co-op's intention to reduce water use.

10. The projected water demand for the Air Force Base, as shown in Table 6, shows a considerable increase in demand throughout the planning period. The population projections prepared by others, as part of this study, shows no growth for the Air Force Base. What is the significant increase in demand attributed to. **197**

197. The projected water demand at the Grand Forks Air Force Base was revised to remain constant.

11. Table 6 also shows the projected water demand for "other industry" to start at 1.1 MGD in 1980 and to increase to 2.5 MGD by 2030. On page 22 it indicates that the 1.25 MGD for a new potato industry is to be excluded. Does this eliminate the projected water demand for "other industry." **198**

198. Table revised to separate the new potato plant from the other industry listing.

12. The numbers in the unnumbered table on page 22 do not appear to agree with the numbers in Table 7. These should be reviewed and corrected as necessary. **199**

199. The unnumbered table was deleted in later drafts.

13. The City of Grand Forks is in the process of obtaining "Letters of Intent" from International Co-op and the Pillsbury Company. The projected wasteloads in Table 7 should be compatible with the flow and wasteloads indicated in these letters of intent. **200**

200. Concur. Information concerning the "Letters of Intent" was furnished in a later draft.

14. Is the strength of the residential and commercial wastewater indicated on page 21 based upon City records or is this an estimate. **201**

201. The wastewater strengths were estimated because specific monitoring systems are lacking at Grand Forks and East Grand Forks.

Section 4

1. It is recommended that all lift stations with bypasses be identified and shown on Figure 3. **202**

202. Concur. Revisions made to identify lift stations with bypass.

2. The time per year that each lift station is inoperative should be documented to evaluate the need for a second source of power. **203**

203. This information was not available from the city.

3. The area in Grand Forks which will no longer be served by combined sewers after the completion of Phase I should be shown on Figure 4. **204**

204. Concur. The areas of sewer separation were illustrated for all three phases in a later draft.

Section 5

1. Water quality problems, high turbidity and fecal coliform, are indicated on page 35. Have these problems been corelated with precipatation events in the study area or is precipitation which occurs outside of the study area of greater significance. **205**

205. A later draft indicated that the problems caused by precipitation in the study area may be relatively minor compared with rural nonpoint sources.

2. Richmond Engineering has submitted a request for a variance to the waste stabilization pond design storage requirements to utilize some of the volume below the two foot level for storage. This request for a variance will not be considered until the letters of intent from significant industries have been submitted and approved so that the design loadings can be finalized. **206**

206. Comment noted.

3. The wastewater treatment facilities for the City of Emerado were originally constructed with manholes which allowed an uncontrolled discharge. There may have been unreported discharges from this facility. **207**

207. Comment noted.

4. It is the understanding of this Department that the Pillsbury Company and the International Co-op operate waste treatment facilities rather than settlement basins. **208**

208. The reference to the Pillsbury Company and International Co-op was deleted from the text.

Section 6

The recommended degree of detail should be indicated for each of **209**

209. Concur. This was scheduled and was accomplished in later drafts.

the seven items listed for additional investigation for further emphasis in the Urban Study program.

Sincerely,

Raymond Rolshoven

Raymond Rolshoven, P.E.
Assistant Director

RR:nb
CC: Mr. Frank Orthmeyer, City Engineer

CITY OF GRAND FORKS

GRAND FORKS, NORTH DAKOTA 58201

OFFICE OF CITY PLANNER

September 29, 1977

Martin McCleery, P.E.
Study Manager, Grand Forks/East Grand Forks
Urban Water Resources Study
1135 U. S. Post Office & Custom House
St. Paul, MN 55101

Mr. McCleery:

The planning staff has reviewed the Demographic Analysis and Population Projections for the Grand Forks/East Grand Forks Study Area as prepared by Richard Ludtke. The projections done for Grand Forks differ little from the projections found in the Grand Forks Master Park and Open Space Plan. Both sets of projections were prepared using the Cohart-Survival method and resulted in projections that deviate from each other less than 2% through the year 2000. The projections in the Master Park and Open Space Plan through the year 2,000 were certified to the State Health Department for use in computing the city's share of E. P. A. funds. **210**

210. Comment noted.

The fifty year composite projections for Grand Forks and other incorporated places through the year 2030, prepared by Ludtke seem a bit high but the methodology used is consistant with that used for the study area from 1977 through the year 2000. **211**

211. Comment noted.

Consider this letter than, an official endorsement of those projections prepared by Richard Ludtke and submitted September 27, 1977 to the City of Grand Forks. **212**

212. Comment noted.

If you have any questions, please contact me at 701-775-8103, Extension 54.

Sincerely,

Bob Bushfield

Bob Bushfield
City Planner

BB/rb

United States Department of the Interior
BUREAU OF RECLAMATION
MISSOURI SOURIS PROJECTS OFFICE
P O BOX 1017
BISMARCK NORTH DAKOTA 58501

IN REPLY REFER TO: 730
125.1-

OCT 5 1977

Mr. J. R. Calton
Chief, Planning Branch
Engineering Division
Corps of Engineers
St. Paul District
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

Dear Mr. Calton:

We have the following comments on the draft report, "Water Supply Study - Problem Identification," prepared by Stanley Consultants, Inc., for the Grand Forks-East Grand Forks Urban Water Resources Study:

98

Monthly additional flow in the Red River attributed to the Garrison Diversion Unit on page 9 appears to be in error and not based on recent Bureau of Reclamation data. Examination of our low-flow (dry year) predictions in the Red River shows that the following additional flows can be expected: **213**

Jan.	- 3400 acre/feet	July	- 5500 acre/feet
Feb.	- 2800 "	Aug.	- 5800 "
Mar.	- 2700 "	Sept.	- 5700 "
Apr.	- 2800 "	Oct.	- 5000 "
May	- 5400 "	Nov.	- 4200 "
June	- 5100 "	Dec.	- 3900 "

A copy of our most recent publication, Water Quality Study, Garrison Diversion Unit, June 1976, is enclosed for your use.

The estimated 7-day 10-year low-flow increase at Grand Forks due to Garrison Diversion Unit return flows, also on page 9, should be reevaluated based on current Bureau data. **214**

The figure given for average flow (2422 ft^3/s) of the Red River downstream of the Red Lake River (on page 9) appears to be in error. The latest available U.S. Geological Survey, Water Resources Data for North Dakota, 1975, indicates that the 93-year average at that point in the river is 2524 ft^3/s. **215**

213. The additional flow figures supplied in the comment were incorporated into the final Water Supply Appendix.

214. Comment noted. This estimated low-flow increase was deleted in the final Water Supply Appendix.

215. Concur. Revisions made to text to indicate 2,524 cfs.

We appreciate the opportunity to comment on the report. If you have further questions, please feel free to contact me.

Sincerely yours,

Warren Jamison
Project Manager

Enclosure

CITY OF GRAND FORKS

GRAND FORKS, NORTH DAKOTA 58201

OFFICE OF CITY PLANNER

October 18, 1977

Martin McCleery, Study Manager
Grand Forks-East Grand Forks Urban Water Resources Study
Corps of Engineers, St. Paul Dist.
1135 U. S. Post Office & Custom House
St. Paul, MN. 55101

Dear Martin:

I have reviewed the document entitled Institutional Analysis prepared for the Corps of Engineers by Paul B. Hannowski of the University of North Dakota. It appears to be a very complete study of the institutions involved in water resources in Minnesota and North Dakota.

In reviewing Section II, (Existing Institutional Framework); subsection 6 (Cities), I would offer the following comments:

1. Expand on the city regulatory power, particularly as it relates to the cities capability to limit the uses in the floodplain. **216**

2. The City of Grand Forks at the request of the Federal Flood Insurance Administration recently adopted a Floodproofing Code. This Code will enable the City to regulate the issuance of building permits to limits located below the 100 year flood elevation located within the floodplain. **217**

3. The aforementioned statements could apply equally well to other communities involved in the Federal Insurance Administration's programs. **218**

We are looking forward to seeing you November 2, 1977, at the Grand Forks Planning meeting.

Sincerely,

[illegible]
City Planner

BH

216. Concur. The city's regulatory authority as it relates to uses in the floodplain was added in a later draft.

217. The Grand Forks flood proofing code was addressed in a later draft.

218. Concur. Other community floodplain management programs were included in later drafts.

AD-A110 277 CORPS OF ENGINEERS ST PAUL MN ST PAUL DISTRICT F/G 13/2
GRAND FORKS - EAST GRAND FORKS URBAN WATER RESOURCES STUDY. COM--ETC(U)
JUL 81

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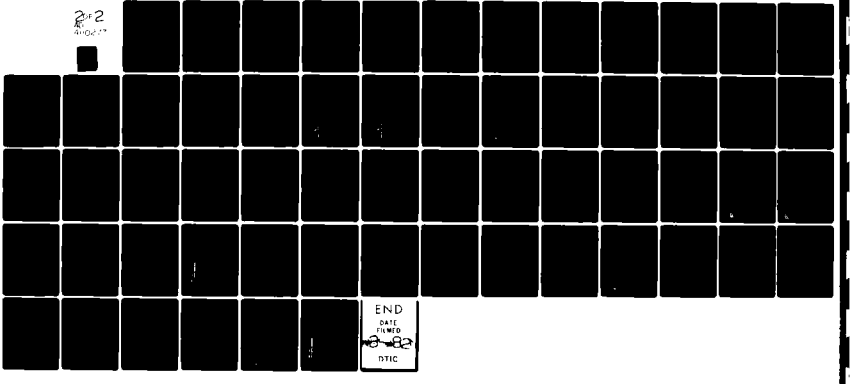

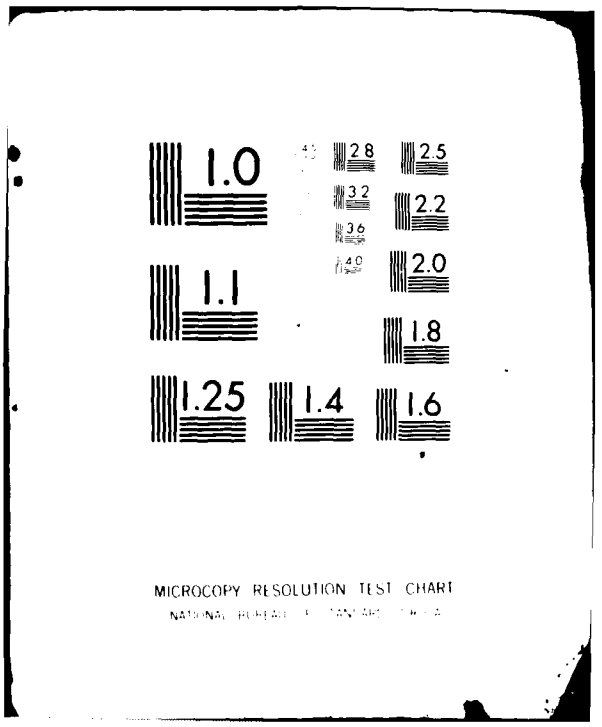
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STATE OF MINNESOTA
DEPARTMENT OF NATURAL RESOURCES

444 Lafayette Road, Space Center Bldg., St. Paul, MN 55101

October 20, 1977

Mr. J. R. Calton
Chief, Planning Branch
Engineering Division
Corps of Engineers, St. Paul District
1135 U. S. Post Office & Custom House
St. Paul, MN 55101

Dear Mr. Calton:

We have reviewed the Institutional Analysis of Grand Forks - East Grand Forks Urban Water Resources Study and, as a result, we have various comments:

1. Reference to Minnesota Statutes 1969 - We would suggest that the Institute for Ecological Studies, University of North Dakota, use the 1974 or 1976 edition of Minnesota Statutes. **219**

2. Table 2 - The Department of Natural Resources authority with regard to Water Resources is stated in Chapters 84 and 105. **220**

3. Table 2 - The Department of Natural Resources authority with respect to Fish and Wildlife is defined in Chapter 97. **221**

4. We feel the Minnesota Water Planning Board created during the 1977 Session of the Minnesota Legislature should be incorporated in the inventory. The board has been given authority to review the institutional arrangements by which decisions are made that affect water policy and to make recommendations for appropriate changes in the manner that the state's resources are managed. Actions taken by the board within the next few years may have impacts on the Urban Water Resources Study. **222**

5. The Minnesota Department of Agriculture which reviews proposed actions, such as agricultural levee projects or proposed reservoir developments, could have a role in water resources in the project area. **223**

6. The Minnesota Historical Society could be included in the inventory as it might be concerned with the impact of the study on historic resources in the area. **224**

ADMINISTRATIVE SERVICES • WATERS SOILS AND MINERALS • LANDS AND FORESTRY
GAME AND FISH • PARKS AND RECREATION • ENFORCEMENT AND FIELD SERVICE

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

219. Concur. Text updated.

220. Concur. Text revised to include section 105.

221. Concur. Text revised to read "section 97."

222. Concur. Reference to the Minnesota Water Planning Board was incorporated in a later draft.

223. Comment noted.

224. Comment noted. Although the Minnesota Historical Society was not included in the Institutional Analysis, close coordination was maintained with this agency (see letters, 5 May 1977 and 22 August 1977).

7. With regard to point (b) of your letter and Chapter III of the study, the Department of Natural Resources will be concerned with the effects of the provisions of the bi-state agreement on state water resources regulations. 225

Thank you for the opportunity to review this document.

Sincerely,

DIVISION OF WATERS

Gerald D. Seinwill
Director

GDS/hr.sj

cc: Barbara Clark

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

225. Comment noted.

Environmental Control
DIVISION OF WATER SUPPLY AND POLLUTION CONTROL
NORMAN L. PETERSON, P.E.
DIRECTOR
(701) 224-2354

North Dakota State Department of Health

JONATHAN B. WEISBUCH, M.D.
STATE HEALTH OFFICER

W. VAN HEUVELEN, CHIEF
ENVIRONMENTAL CONTROL

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

October 25, 1977

Corps of Engineers
St. Paul District
1135 US Post Office and Customhouse
St. Paul, Minnesota 55101

Attention: Mr. David J. Haumersen, Chief
Urban and Special Studies Section
Planning Branch, Engineering Division

Re: Grand Forks/East Grand Forks
Urban Water Resources Study

Gentlemen:

The final Stage II Report, "Demographic Analysis and Population Projections for the Grand Forks-East Grand Forks Study Area" and the October 12, 1977 Revisions, have been reviewed by this Department and the following comments are offered:

1. The incorporated places, composite projections and the study area subdivision extrapolated projections: 2000-2030 for the City of Thompson are significantly different that the population projections prepared by the Red River Regional Planning Council, June, 1977. This could have a significant impact on planning of future wastewater facilities for the City of Thompson. It might be advisable to obtain concurrence from the City of Thompson and the Red River Regional Planning Council as to these projections. **226**

2. The Department has contracted with the Regional Planning Councils in the non-designated portion of the State of North Dakota for population projections for wastewater management planning in the Statewide 208 Planning Process. Therefore, the Department has a commitment to utilize these projections. **227**

Sincerely,

Raymond Rolshoven

Raymond Rolshoven, PE
Assistant Director

RR:dmb
cc: City of Thompson
Red River Regional Planning Council

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

226. See response 176.

227. Comment noted.

Environmental Control
DIVISION OF WATER SUPPLY AND POLLUTION CONTROL
NORMAN L. PETERSON, P E
DIRECTOR
701 224 2354

North Dakota State
Department of Health

JONATHAN B WEISBUCH, M D
STATE HEALTH OFFICER

W. VAN HEUVELEN, CHIEF
ENVIRONMENTAL CONTROL

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

October 28, 1977

Corps of Engineers
St. Paul District
1135 US Post Office and Customhouse
St. Paul, Minnesota 55101

Attention: J. R. Calton, Chief
Planning Branch
Engineering Division

Re: Grand Forks-East Grand Forks
Urban Water Resources Study

Gentlemen:

The draft report entitled "Grand Forks-East Grand Forks Urban Water Resources Study: Institutional Analysis", has been reviewed by this Department and the following comments are offered:

1. Our review of the Institutional Analysis was limited to the North Dakota State Department of Health authorities.

2. North Dakota Statute 61-28 establishes the authority for control, prevention, and abatement of pollution of surface waters. Regulations have been adopted by the North Dakota State Department of Health for the following purposes: **228**

   a. 61-28, Control of Pollution from Certain Livestock Enterprises.

   b. 61-28-01, North Dakota Pollutant Discharge Elimination System.

   c. 61-28-02, Revised Water Quality Standards.

   The effect of these Regulations on point and non-point source pollution control should be included in the Analysis.

3. North Dakota Statute 61-28.1, establishes the authority for the Safe Drinking Water Act. Regulations have been adopted by the North Dakota State Department of Health for the following purpose: **229**

   a. 61-28.1, Public Water Supply Systems.

   The effect of these Regulations on Public Water Supply Systems should be included in the Analysis.

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

228. Comment noted.

229. Comment noted.

4. The North Dakota State Department of Health has been designated by Governor Link as the lead agency for Statewide 208 Water Quality Management Planning. The Department's authority for control of non-point sources of pollution as relates to planning, review and enforcement, should be included in the Analysis. **230**

5. Our Legal Division has noted that bi-state agreements are difficult to formulate under existing laws unless the authority is explicitly stated. It is requested that the Institutional Analysis include the Sections of the North Dakota Century Code which indicates the authority for bi-state agreements for all areas of water resource management, such as water supply, and point and non-point sources of water pollution control. The appropriate portions of Minnesota's Statutes should also be indicated. **231**

Sincerely,

Raymond Rolshoven

Raymond Rolshoven, PE
Assistant Director

RR:dmb

93

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

230. Concur, Statement concerning statewide 208 planning was added in later draft.

231. Concur. The North Dakota Century Code and the bistate agreements were addressed in a later draft.

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

United States Department of the Interior
BUREAU OF OUTDOOR RECREATION
MID-CONTINENT REGION

MAILING ADDRESS
Post Office Box 25387
Denver Federal Center
Denver, Colorado 80225

STREET LOCATION
9311 Miller Court
Lakewood, Colorado
Telephone 234-2634

D6427

OCT 28 1977

Mr. J. R. Calton, Chief
Planning Branch, Engineering Division
St. Paul District, Corps of Engineers
1135 U. S. Post Office and Custom House
St. Paul, Minnesota 55101

Attention: Mr. Martin McCleery

Dear Mr. Calton:

We have reviewed the institutional analysis report for the Grand Forks-East Grand Forks Urban Study and offer the following comments.

State Agencies - North Dakota

State Planning Division: This division has been designated by the Governor as the State clearinghouse for OMB Circular A-95 reviews. These reviews are necessary whenever Federal funds are requested for any project in the State to assure coordination between the State or local entities involved. We suggest this agency be added to the North Dakota listing. **232**

232. Comment noted.

Parks and Recreation Department: A correction should be made on item 7; that is, management is not funded but rather funds are provided for development of a State Comprehensive Outdoor Recreation Plan as well as acquisition and development of recreation sites and areas. **233**

233. Concur. Correction made to reflect comment.

The following State agencies in Minnesota should also be included.

Department of Natural Resources: This department has been designated by the Governor to assume the responsibility for administration of the Land and Water Conservation Fund program for State-sponsored park and recreation projects. The State Comprehensive Outdoor Recreation Plan, as well as acquisition and development of sites and areas, receives matching funds under the program from the Bureau of Outdoor Recreation. **234**

234. Comment noted.

Office of Local and Urban Affairs: This State agency assumes the responsibility for administration of the Land and Water Conservation Fund program for locally sponsored park and recreation projects. **235**

235. Comment noted.

Intergovernmental Planning, State Planning Agency: This State agency is designated as the State clearinghouse for OMB Circular A-95 reviews and performs the same functions as discussed for the North Dakota State Planning Division. **236**

Northwest Regional Development Commission: This commission is responsible for A-95 reviews at the regional level as specified in OMB Circular A-95. This review function is similar to that conducted at the State clearinghouse level. **237**

If additional information is desired from these agencies, you may contact them as follows:

North Dakota State Planning Division
State Capitol
Bismarck, North Dakota 58505

Intergovernmental Planning
Minnesota State Planning Agency
Room 101, Capitol Square Building
St. Paul, Minnesota 55101

Northwest Regional Development Commission
114 West 2nd Street
Crookston, Minnesota 57616

Department of Natural Resources
301 Centennial Building
St. Paul, Minnesota 55155

Office of Local and Urban Affairs
Capitol Square Building
Room 15
550 Cedar Street
St. Paul, Minnesota 55101

We appreciate the opportunity to comment and hope this information may be of benefit to you.

Sincerely,

Albert G. Baldwin
Assistant Regional Director
Resource Planning Services

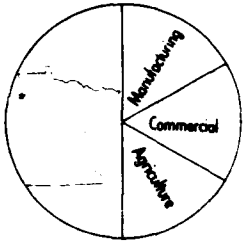
cc: SLO, North Dakota
SLO, Minnesota
BOR, Ann Arbor

95

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

236. Comment noted.

237. Concur. The Northwest Regional Development Commission was included in a later draft under Sub-State Regional Agencies.



CITY OF EAST GRAND FORKS

"Center of the Rich Red River Valley"

EAST GRAND FORKS, MINNESOTA 56721

D. E. MACK, Clerk-Treasurer
P.O. Box 373, Phone (218) 773-2483

November 4, 1977

Martin McCleery, P.E.
Study Manager, Grand Forks/East
Grand Forks Urban Water Resources Study
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

Dear Mr. McCleery,

238

The City of East Grand Forks has reviewed the Demographic Analysis and Population Projections for the Grand Forks/East Grand Forks Study Area as prepared by Richard Ludtke and hereby concurs with the projections for the City of East Grand Forks.

Sincerely yours,

Louis A. Murray

Louis A. Murray
Mayor

LAM/sl

238. Comment noted.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 321ST COMBAT SUPPORT GROUP (SAC)
GRAND FORKS AIR FORCE BASE, NORTH DAKOTA 58205

REPLY TO ATTN OF: DEE, Stop 29

27 DEC 1977

SUBJECT: Review of "Wastewater Study - Problem Identification Alternative Formulation" draft stage 2 report

TO: Mr. J. R. Calton
Corps of Engineers
1135 U. S. Post Office and Custom House
St. Paul, MN 55101

The following correction should be made to the subject report in Table 5, page 11, under the column entitled "Description" for Grand Forks Air Force Base. In 1978, the base will have one primary 35 acre lagoon and two secondary lagoons of 12 acres and 14 acres. We do not have one secondary and two tertiary lagoons as indicated in the report.

239

JOHN J. KOTALIK, GS-13
Deputy Base Civil Engineer

97

Peace is our Profession

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

239. The information in this table was corrected in final draft of the Wastewater Appendix.

United States Department of the Interior
BUREAU OF OUTDOOR RECREATION
MID-CONTINENT REGION

MAILING ADDRESS
Post Office Box 25387
Denver Federal Center
Denver, Colorado 80225

STREET LOCATION
603 Miller Court
Lakewood, Colorado
Telephone 234-2844

IN REPLY REFER TO
D6427

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

JAN 6 1978

J.K. Calson, Chief Planning Branch
St. Paul District
U.S. Army Corps of Engineers
1135 U.S. Post Office and Customs House
St. Paul, Minnesota 55101

Dear Mr. Calson:

We have reviewed the draft stage 2 reports, *Water Supply and Wastewater Studies - Problem Identification/Alternative Formulation,* and suggest the following:

It might be helpful, for those persons who are not intimately familiar with the study effort, to indicate in the introduction that these are *single-purpose plans and that* other problems, issues, and needs such as for recreation, fish and wildlife, and environmental factors will be considered in separate reports. Information developed in the single-purpose reports will then be combined into alternative recommendations to accommodate the needs and problems of the total study area. **240**

240. Stage 2 of final Wastewater Management Appendix clarifies this issue.

We recognize that these reports are still in a preliminary stage and will be refined as the planning process continues. We do, however, wish to point out several factors as they would relate to recreation.

Water Supply Study

The item of water supply stream-flows should consider fisheries as well as recognizing the value of increased flow for recreation. **241**

241. Comment noted.

The various alternatives of future water supply would offer few recreation opportunities with the exception of off-channel storage. The study area is quite deficient in flat water for recreation and the construction of any water storage reservoir could alleviate some of those needs. **242**

242. Off-channel storage was found not cost effective in stage 3 portion of final Water Supply Appendix.

Our final comment concerning the water supply report deals with Appendix B, *Cost Information.* We noted various alternatives have been examined for construction costs, but there do not appear to be costs for either fee land-aquisition or easements. These costs would have a significant impact on any final economic evaluation. **243**

243. Land acquisition and easement costs were evaluated in the stage 3 portion of the Water Supply Appendix.

Wastewater Study

The Red River of the North and Red Lake River offer a portion of the better recreation potentials within the study area. Therefore, water quality determinations should be made to allow for water contact recreation. The small amount of existing recreation use on these rivers may be due to the hazards rather than primarily water quality. **244**

Ongoing 201 or 208 planning should examine how recreation could benefit as a result of these planning efforts. A number of potentials are available if given early consideration. We believe the statement on page 56 may prejudice recreation considerations since certain activities could still occur on the water even though water contact may not be acceptable. **245**

It appears that the best wastewater alternative for recreation potentials would be the storage treatment option. This would be especially true if the storm water runoff system were separated from the sewage system. This storm water runoff storage could also be incorporated into the water supply off-channel storage concept. **246**

We appreciate the opportunity to review these reports and will be pleased to review the next plan iteration.

Sincerely

Albert G. Baldwin

cc: North Dakota SLO

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

244. Water quality analysis was presented. Also, a national goal is to have all waters "fishable and swimmable" by 1983.

245. Statement added that the area ". . . may have recreational uses."

246. Sewer separation without storage treatment was indicated as the best alternative in the stage 3 combined sewer analysis. Off-channel storage was found not cost effective.

Environmental Control

DIVISION OF WATER SUPPLY
AND POLLUTION CONTROL

NORMAN L. PETERSON, P.E.
Director
(701) 224-2354

North Dakota State Department of Health

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

JONATHAN B. WEISBUCH, M.D.
State Health Officer

W. VAN HEUVELEN, P.E.
Chief
Environmental Control

January 11, 1978

Corps of Engineers
St. Paul District
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Re: Grand Forks - East Grand Forks
Urban Water Resources Study

Attention: J.R. Colton, Chief
Planning Branch

Gentlemen:

The draft Stage 2 report entitled, "Wastewater Study - Problem Identification/Alternative Formulation", has been reviewed by this Department and the following comments are offered.

SECTION 3

1. All wastewater treatment facilities in the North Dakota portion of the study area have been checked since October of 1977, as part of the Statewide 208 Water Quality Management Plan. The areas for the communities should be adjusted as follows: **247**

Community	Primary Cell	Secondary Cell
Thompson	2.56	1.95
Manvel	2.95	1.55
Emerado	2.54	1.71

2. The hydraulic and organic loadings from the International Co-op and the Pillsbury Company for their reserve capacity should be compatible with the most recent letters of intent from the respective industries. **248**

3. The Grand Forks facility plan indicates that regionalization was not feasible. Further, the cities of Grand Forks and East Grand Forks may not be on the [illegible] that states priority list at the same time. **249**

247. Concur. The stage 2 portion of the final Wastewater Management Appendix has corresponding acreages.

248. Comment noted.

249. Comment noted.

4. The facility plan for the City of Thompson was approved by the Environmental Protection Agency on October 5, 1977, and the project engineer is preparing plans and specifications for a new three cell system. **250**

5. Table 5 indicates that two tertiary lagoons will be constructed in 1978 for the Grand Forks Air Force Base. It is our understanding that the Grand Forks Air Force Base has no immediate plans for the construction of two tertiary waste stabilization ponds. **251**

6. Table 5 indicates the average design basis flow as 0.8 million gallons per day, where as Page 15 indicates the annual average wastewater flow is 1.13 million gallons per day for the Air Force Base. **252**

7. Several Grand Forks lift stations are not shown on figure 9. **253**

8. The projected water demands for industries should show some ratio to the gallons per day to be discharged by the respective industries and be compatible with their most recent letters of intent if applicable. **254**

9. The population projection for the City of Thompson, shown on Table 8, is not compatible with the projections prepared by the Red River Regional Planning Council and could affect planning for their pollution control needs. **255**

10. The data in Table 10 indicates that the projected water demand for the year 2010 is equalled by the current average wastewater flow for the International Co-op. Further, this should be correlated with letter of intent from the International Co-op. **256**

11. The projected water demand for the Air Force Base as shown on Table 10, shows an increase of 400,000 gallons per day whereas the population projections included in this study show no growth for the Air Force Base. **257**

12. Table 6 indicates that domestic waste strength is 140 milligrams per liter BOD and 160 milligrams per liter total suspended solids. Also that composite industrial waste strength indicates 920 milligrams per liter of BOD and total suspended solids. Will the City of Grand Forks use these figures for user charges and industrial cost recovery. **258**

SECTION 4

1. It is recommended that all lift stations and combined sewers with bypasses or overflows be indicated on an appropriate drawing. **259**

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

250. Comment noted.

251. Concur. Mention of tertiary lagoons was removed from the stage 2 portion of the final Wastewater Management Appendix.

252. Design flow was revised to 1.0 mgd. However, design flow is still inadequate to meet actual flow conditions under State design criteria.

253. Lift stations 18, 23, and 24 were added in the stage 2 portion of the final Wastewater Management Appendix.

254. Comment noted.

255. See response 176.

256. Figures revised to reflect letters of intent.

257. Figures revised to reflect no growth at the Air Force Base.

258. Comment noted.

259. Concur. See figure 8 of the stage 2 portion of final Wastewater Management Appendix.

101

2. The Environmental Protection Agency has indicated that water quality standards may not be achievable at all times due to the effect of combined and or storm sewer discharges. Further, the Environmental Protection Agency has indicated that Construction Grant funds will not be available to fund storm water treatment and that combined sewers will be treated to must less than secondary treatment levels. **260**

Section 5

The Administrator of the Environmental Protection Agency has been authorized to amend the suspended solids limitations for waste stabilization ponds provide certain conditions are met and the flow is less than 2.0 million gallons per day. **261**

Section 6

The additional investigations to be conducted in the urban study area indicated on page 62 should be screened by the effected communities and agencies to prevent unnecessary expenditure of manpower and resources. **262**

Section 7

1. The requirement for disinfecting treated wastewater prior to land disposal of liquid on other than vegetable crops should be carefully reviewed. The unnecessary chlorination of wastewater has been critized by federal agencies in recent months. **263**

2. The soil absorption system proposed to reduce waste loads is generally not acceptable in this urban study area due to soil conditions. Further, most communities have an ordinance requiring a connection be made to the sanitary sewer system where such service is available. **264**

3. As long as lawn watering is encouraged, water conservation measures would not appear to gain acceptance by the public. **265**

Sincerely,

Raymond Rolshoven

Raymond Rolshoven, P.E.
Assistant Director

RR:nb
CC: Mr. Frank Orthmeyer

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ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

260. Comment noted.

261. Comment incorporated in the stage 2 portion of final Wastewater Management Appendix.

262. Comment noted.

263. Comment noted. Pilot program recommended to ". . . test the technical feasibility of this concept."

264. The final stage 2 portion of the Wastewater Management Appendix states, "On site treatment systems are not recommended for the study area."

265. Lawn watering would be discouraged through leveeing a fee for actual use (suggestion 3 for decreasing household volume of wastewater).

Environmental Control
DIVISION OF WATER SUPPLY AND POLLUTION CONTROL
NORMAN L. PETERSON, P.E.
DIRECTOR
(701) 224-2354

North Dakota State
Department of Health

JONATHAN B. WEISBUCH, M.D.
STATE HEALTH OFFICER

W. VAN HEUVELEN, CHIEF
ENVIRONMENTAL CONTROL

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

January 13, 1978

Corps of Engineers
St. Paul District
1135 US P.O. & Custom House
St. Paul, MN 55101

RE: Grand Forks-East Grand Forks
Urban Water Resources Study

ATTENTION: J. R. Calton, Chief
Planning Branch

Gentlemen:

The draft Stage II Report entiled, "Water Supply Study-Problem Identification/Alternative Formulation", has been reviewed by this Department and the following comments are offered:

1. The assessment of industrial cost recovery charges and user charges upon industries, as required by the Environmental Protection Agency, should be evaluated for its impact on water conservation by industries. **266**

2. Table 9 indicates an increase consumption of 400,000 gallons per day for the Grand Forks Air Force Base. As no growth has been projected for the Base population, to what is the increase contributed to? **267**

Sincerely,

Raymond Rolshoven

Raymond Rolshoven, P.E.
Assistant Director

RPR:lmb
cc: Frank Orthmeyer

103

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

266. Comment noted.

267. Figures revised in the stage 2 portion of the final Water Supply Appendix to reflect no growth.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P. O. Box 1458, Bismarck, ND 58501

January 16, 1978

J. R. Calton
Chief, Planning Branch
Engineering Division
Corps of Engineers/St. Paul District
1135 U.S. Post Office & Custom House
St. Paul, MN 55101

Dear Mr. Calton:

We have reviewed the following Draft Stage 2 documents for the Grand Forks-East Grand Forks Urban Water Resources Study:

"Water Supply Study - Problem Identification/Alternative Formulation"

"Wastewater Study - Problem Identification/Alternative Formulation"

Flood Control Appendix

Plan Formulation Appendix

We have one comment. The last paragraph on Page 27 of the Draft Stage 2, Flood Control Appendix, dated December 1977, states, "A small flood control project has recently been completed by the U.S. Soil Conservation Service on Belmont Coulee at Belmont Road." **268**

This is not an SCS project. The Service did not provide either technical or financial assistance. Please delete reference to SCS.

We appreciate the opportunity to review and comment.

Sincerely,

Lynn R. Bereuter

Lynn R. Bereuter
Planning Staff Leader

cc: H. S. Jelleberg, AC, SCS, Grand Forks, ND
A. Richard Moum, SCE, SCS, Bismarck, ND

268. Reference to SCS was deleted from the final draft.

Environmental Control
DIVISION OF WATER SUPPLY AND POLLUTION CONTROL
NORMAN L. PETERSON, P.E.
DIRECTOR
(701) 224-2354

North Dakota State Department of Health

JONATHAN B. WEISBUCH, M.D.
STATE HEALTH OFFICER

W. VAN HEUVELEN, CHIEF
ENVIRONMENTAL CONTROL

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

January 17, 1978

Grand Forks/East Grand Forks
Urban Water Resources Study
Corps of Engineers/St. Paul District
1135 U. S. Post Office and Custom House
St. Paul, Minnesota 55101

Attention: J. R. Calton, Chief
Planning Branch
Engineering Division

Gentlemen:

The draft of the Stage II Flood Control Appendix for the Grand Forks/East Grand Forks Urban Water Resources Study was received last week. Due to the inadequate review time a very cursory review was made. The following comments are offered.

1. The urban drainage study indicates 1.4 square miles is served by combined sewers. The wastewater study indicates 2.65 square miles is served by combined sewers. **269**

2. Plate 1 showing the urban drainage area differs from Figure 11 of the wastewater study. **270**

3. Table 1 indicates the 1897 flood reached a stage of 48.5 feet where as the narrative indicates a stage of 49.6 feet was reached. **271**

Due to the time restraints, no additional comments will be offered.

Sincerely,

Raymond Rolshoven

Raymond Rolshoven, P.E.
Assistant Director

RR:nb
CC: Mr. Frank Orthmeyer

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

269. The 2.65 square miles is before phase I of Grand Forks' sewer separation program, which will remove about half of this value to be served by storm sewers

270. The erroneous plate of the stage 2 Flood Control Appendix was deleted in a later draft.

271. Error corrected; a stage of 48.5 feet is correct.

Grand Forks / East Grand Forks
URBAN WATER RESOURCES STUDY
Corps of Engineers / St. Paul District
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

COMMENTS

Alternatives Workshop
18 January 1978

January 23, 1978

Mr. Martin McCleery
Sutdy Manager
Grand Forks - East Grand Forks Urban Water Resources Study

Dear Mr. McCleery:

After reviewing the various reports and participating in the workshop that you held in Grand Forks on the eighteenth of January, I have the following comments for your consideration.

1. Under the water supply alternatives on Page 29, the Grand Forks-East Grand Forks systems are connected only for treated water. **272**

   We think you might as well write off the Garrison Diversion Unit as a water supply source and proceed to work on realistic recommendations in Stage III that will be well received by the City of Grand Forks. It may be helpful to do a small pilot study on the use of a Grand Forks acquifer in combination with our surface water in order to determine their compatibility as to treatment, etc. It is my opinion, as well as the Mayor's and some members of the City Council, that we refine estimates and study the well field in the Elk Valley acquifer. Utilization of the aquifer, I feel, is the only long range solution to our water supply problem in the Grand Forks area. Furthermore, we should endeavor to make this system available to the City, since the conditions of the Red River are deteriorating from year to year. It becomes more apparent that we pursue this option for health reasons. Since we started developing atomic energy, it has been my feeling that our only safe water supply will be the underground aquifers.

2. Under the wastewater alternatives, on Page 13 under Table 6 - Raw Water Loads to the City of Grand Forks Lagoon; Page 21 where under Other City Sources, the BOD and the suspended solids seem very low compared to national averages. It was our intent, after consulting with EPA, that we would be using 200 mgl for the BOD and 250 mgl for **273**

Use the attached envelope to mail your comments directly to the study team.

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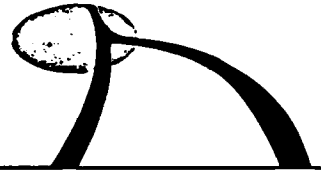
ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

272. The Garrison Diversion Project was proven most cost effective and definitely a viable option in the stage 2 portion of the Water Supply Appendix. However, as stated in stage 3, because of political and environmental concerns and subsequent delays, the Garrison Diversion cannot be considered as a potential water supply in the foreseeable future.

273. Comment noted. BOD and TSS concentrations were revised. Producing "plans and specifications" is not within the scope of the urban study; however, it was recommended that a policy of sewer separation be adopted.



Grand Forks / East Grand Forks
URBAN WATER RESOURCES STUDY
Corps of Engineers / St. Paul District
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

COMMENTS

Alternatives Workshop
18 January 1978

 January 23, 1978

the total suspended solids. I think it would be helpful if the author would comment on this part of the report. I failed to see in the recommendations for Stage Three study, the requirement of plans and specifications for the separation of storm and sanitary sewers, Phases Two, Three and Four.

3. My comment on the urban drainage plan is that as much of the water as possible be routed south into County Drain Four thus avoiding it being routed through the existing City or into the English Coulee, which is already pretty well loaded. Also, additional work should be done on the use of combinations of pipe and ditches. **274**

4. On the Flood Control alternative, it appears to me you have a great deal more work that must be done on this part of the report. In several of his conclusions and recommendations it was stated that a particular alternative was locally unacceptable and I'm not sure that this is really the case. I would appreciate some more work being done on the use of a combination of the various alternatives, for instance, if diking for the 100 year storm is not feasible, a practical way of getting the job done might be to use the combination of diking to protection for a 50-60 year storm, using some evacuation in order to construct the dikes as well as making some channel changes some of which were shown on this plan, for instance the cut-off opposite of Lincoln Park as well as the channel clearance and widening. More investigation should be done on channel clearance; because, it is apparent to us, there are many places where the channel has been filled in with debis which could be removed. The Burlington Northern Bridge, in itself is an obstruction. Another possibility, is channel straightening of the two oxbows; one east of Lincoln Park and the second south of Central Park. Riverside Park Dam would be replaced with one east and south of Central Park. Such an idea would provide a larger water storage area, link the existing parks together, provide an expansion area for both parks and increase the movement of water through the community resulting in a partial flood control measure. There were **275**

Use the attached envelope to mail your comments directly to the study team.

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

274. Comment noted.

275. Concur. Stage 3 of the Flood Control Appendix evaluated relocation and evacuation plans, protection levels for a 50-year flood, and the Belmont Road raise. Channel improvements were eliminated in stage 2 for various reasons

objections at the workshop regarding the use of the flood plain areas for park use. It seems to me that this is a natural use and that the parks could avoid constructing equipment and buildings which would be damaged by the flood. The use of Belmont Road for flood protection appears to have some obstacles. A better way may be to move the dike into the park as close to the river as possible. However, don't write off the raising of Belmont Road.

Thank you for the opportunity to respond.

Yours very truly,

Frank B. Orthmeyer
Director of Public Works

FBO/ch

cc: Mayor C. P. O'Neill

United States Department of the Interior
FISH AND WILDLIFE SERVICE
AREA OFFICE -- NORTH DAKOTA
1500 CAPITOL AVENUE
P O BOX 1897
BISMARCK, NORTH DAKOTA 58501

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

FEB 2 1978

Colonel Forrest T. Gay, III, District Engineer
St. Paul District, Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

We have reviewed the five draft stage 2 reports for the Grand Forks-East Grand Forks Urban Water Resources study. These reports are entitled "Water Supply Study-Problem-Identification/Alternative Formulation", "Wastewater Study-Problem Identification/Alternative Formulation", "Flood Control Appendix", "Plan Formulation Appendix", and "Background Information Appendix".

The area's water supply, waste water, flood control and urban drainage problems are identified and discussed, preliminary alternative solutions to these problems are presented, and tentative recommendations are made for detailed stage 3 analyses of alternatives. The general nature of the alternative plans formulated to solve the area's water resource related needs preclude specific comments on probable impacts on fish and wildlife resources. Based on the preliminary information presented, we have not identified any major concerns or noted any significant omissions. **276**

276. Comment noted.

It appears that no major channel work or large impoundments are contemplated. Specific sites of potential water storage reservoirs have not been located; however, these could include conventional reservoirs, old oxbow channels, or abandoned waste water treatment lagoons. Depending on the location and physical characteristics of a storage reservoir, the net environmental impact could be either favorable or adverse. **277**

277. Comment noted.

At this early stage of planning, we can state that, in general, we prefer nonstructural to structural solutions to water resource problems, although more detailed planning may indicate some structural alternatives that may produce fish and wildlife benefits. We expect that our major input on this project will take place during stage 3 planning when alternatives have been refined and impacts of the selected plans on fish and wildlife can be more precisely predicted. **278**

278. Comment noted.

Essentially the same comments as expressed above were furnished by telephone to Mr. McCleery of your staff on January 30, 1978. We appreciate the opportunity to review your stage 2 reports for this project.

Sincerely yours,

Wm. Aultfather
Area Manager

cc: Area Manager, Twin Cities
Regional Director, Denver (AENV)
N.D. Game and Fish Department,
Bismarck

HERITAGE CONSERVATION AND RECREATION SERVICE

United States Department of the Interior

HERITAGE CONSERVATION AND RECREATION SERVICE
MID CONTINENT REGION

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Denver Federal Center
Denver, Colorado [illegible]

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601 Kipling Street
Lakewood, Colorado [illegible]
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IN REPLY REFER TO:
D6427

FEB 22 1978

Colonel Forrest T. Gay III
District Engineer
St. Paul District
U.S. Army Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

Our recent attendance at the January 18, 1978, public meeting in Grand Forks surfaced an item that is of some concern to us. This deals specifically with the flood control alternative of barriers that do not consider the benefits of existing park lands. The constriction of the river channel through a system of barriers would create a high water level during flood stages. Since the park areas would not be protected, this large volume of water would flow into these sites. Therefore, in our view these areas should be included in the flood barrier protection system for the following reasons. **279**

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1. There has been a significant Federal investment in not only providing additional recreational facilities, but also in cleanup operations as a result of the 1975 flood. This investment totals approximately $302,500; of this amount, $56,500 was provided through the Land and Water Conservation Fund program which was matched by local funds.

2. During flooding these parks are not available for public use and, in some cases, the Park District actually experiences revenue losses. This is especially noticeable for the golf course, and it is estimated that approximately $30,000 was lost in golf course receipts as a result of the 1975 flood. Prior years' flooding has also resulted in revenue losses, but the amounts were not available.

3. It is understandable that the Park District is reluctant to provide additional park lands or facilities which would be subject to flooding and that may have to be relocated to other sites. This relocation would not only result in the loss of significant existing public investment, but would also require a tremendous amount of funds to purchase and develop similar sites elsewhere. It is estimated that relocation of the public golf course would require approximately $1.5 million.

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

279. The cost for the added protection of the park areas is far more than the damages inflicted on these areas during flood stages.

Those park land acres located along the Red River of the North also have natural amenities that are scarce, such as large trees and adequate ground cover, in addition to the potential of water-oriented and water-related activities. **280**

We believe it is imperative to fully investigate not only the economic, but the intrinsic values associated with these sites. To allow these sites to flood as one of the alternatives could be construed as a conversion of use which would then require Secretary of the Interior approval and land replacement. **281**

We suggest that the flood control barrier system address the possibility of a well-designed flood wall similar to the one provided in Pembina. The construction of this structure would require conversion of some park land but would be significantly less than a levee or dike. **282**

These concerns are also expressed by the Park Board, and we are enclosing a copy of a recent memo submitted to our office.

If you require our assistance in developing recreation benefits, please let us know.

Sincerely,

Albert G. Baldwin
Assistant Regional Director
Resource Planning Services

Enclosure

cc: SLO, North Dakota
Stephen Mullally, Grand Forks

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

280. Concur.

281. Concur. The Background Information Appendix evaluated the biological and cultural aspects of each reach.

282. Comment noted.

Board of Park Commissioners

P O Box 248
GRAND FORKS, NORTH DAKOTA 5820·

February 1, 1978

DATE FEB 3 1978 INITIAL

Hank Burback
Dept. of Historical Conservation
and Recreation Services
U.S. Department of Interior
603 Miller Court
Lake Wood, Colorado 80225

Hank,

I just received the package you sent and I appreciate the material. It should prove to be very helpful.

I have enclosed some North Dakota cold air in the envelope so you could better appreciate our weather situation.

In response to your question about recreation, it is my feeling that more recreational opportunities should be provided, although not necessarily by the local Park District. I think that both government and the private sector could do more in achieving this goal. When I suggest government I mean state and county agencies.

Some suggested activities:

Children's Zoo	Overnight Camping Facilities
Archery Range	Skiing Facilities
Model Airplane Flied	A County Bike Trail System
Mini-Bike Trail	Nature Area - with Interpretive Tours
Par 3 Golf Course	Indoor-Outdoor Swimming Pool
Snowmobile Trails	

These are but a few suggestions, although I feel they could be provided with some initiative.

In response to your question regarding what monies have been spent in our three flooded parks, to date $246,000. This money was used to replace and repair damage caused by flooding to Lincoln, Central and Riverside. We also estimate that the Park District lost approximately $30,000 in golf course receipts during the 1975 floods.

The only time that we are eligible for Federal assistance is if our area is declared a national disaster. The 1975 flood was declared such a disaster.

If the Grand Forks Park Board was to purchase land for a new public golf course the cost of the needed acreage would be approximately one million dollars. (100 acres @ $10,000 per acre). The development of the land would cost approximately an additional half million. At this point in time the Park Board is not in a position to purchase land because of budget limitation. I also think that the political climate in our city is such that a bond issue would succeed. So I believe we should strongly support the concept of protecting our existing course. I along with many others oppose the Corps of Engineers suggestion of raising Belmont Road, therefore, allowing the golf course to serve as a flood plain.

It would be very difficult to replace both Central and Riverside Parks because of the cost and the loss of established parkland. Somewhere down the road parkland should be considered on its aesthetic value history and because it exists as parkland and serves a function for society. (Sometimes things do not have a price, although the Corps may disagree).

I will be sending you more information when I receive material from both Bob Bushfield and Steve Gravseth.

Sincerely,

Stephen Mullally
Assistant Superintendent

SM/ds

P.S. Thanks again for the package and you did a nice job as a College Professor.

NORTH DAKOTA PARKS AND RECREATION DEPARTMENT

March 20, 1978

Mr. Henry Burback
Heritage Conservation & Recreation Service
P O. Box 25387
Denver Federal Center
Denver, CO 80225

Dear Hank:

Thank you for the opportunity to review the Recreation Evaluation for the Alternate Plans presented for the Grand Forks/East Grand Forks Urban Study. As discussed in our telecon of March 17, 1978, I appreciate your consideration of the following comments despite their tardiness.

General Comments -

As a whole, the evaluation very adequately addresses each of the alternatives presented at the public meeting on Wednesday, January 18th in Grand Forks. Secondly, the evaluation reflects concerns expressed by the attending citizens regarding each alternative. **283**

283. Comment noted.

In the discussion of open space, however, I would like to re-emphasize the distinction between sites which provide recreation facilities and sites which are used for open space. The differences between the two concepts cannot be overlooked. As a nonstructural alternative to flood control, zoning for open space in flood prone areas is reasonable. It should not be confused, however, with providing sites which meet the demand for recreational facilities. Open space areas meet the demand for only that; open space. (In a rural state such as North Dakota, open space does not carry as high a social value as it may in urban areas). In addition, the belief that open space recreation areas require no maintenance and no repair as they receive no damage from flooding should be discounted. Even the barest of facilities on the area (such as signing for a trail or limited fencing for a backstop) will require maintenance after a flood, not to mention the cost of silt removal and reseeding. **284**

284. Comment noted.

Lastly, I submit the following suggestion for the future process. As the flood control measures on each side of the river affect the opposite side, a combined evaluation of the alternatives should be addressed. In future citizen meetings, both Grand Forks and East Grand Forks citizens should be included in a joint discussion of alternatives.

Specific Comments -

1. In regard to the development of trail corridors on the would-be constructed levees. I offer the following: **285**

   a) The levees must be designed from the beginning for use as a trail corridor.

   b) The Corps of Engineers should be responsible (either wholly or on a cost-sharing basis) for the cost of constructing such a trail system.

   c) The city council, planning staff and park district should be involved in the planning and designing of these trails to:

      1. Negate any potential conflicts of use which may arise by the presence of a trail.
      2. Insure compatability with present and future recreation plans.

2. In regard to the benefits of flood control measures on potential recreation sites, I offer the following: **286**

   a) Though the construction of structural flood control measures would require acreage, this may not be entirely detrimental, as it would thereby allow recreation facilities to be built on the potential sites. These sites would then meet part of the demand for recreation facilities while the unprotected sites could meet the demand for open space.

3. In regard to the reservoir storage alternative, I offer the following: **287**

   a) I cannot agree that the reservoir storage alternative "seems to offer one of the best possibilities for recreation use." The need for flat water areas is not under dispute, however, the location of the reservoir, the depth and the question of responsibility for maintenance and operation of recreation sites is under question.

285. Concur. The areawide planning effort as emphasized in this comment is a major objective of the urban study.

286. Concur.

287. Concur. In stage 3 of the Water Supply Appendix, reservoir storage was indicated as unnecessary in meeting water supply needs.

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

b) If this reservoir is indeed to be located near Kindred, North Dakota, then its recreational value to the city of Grand Forks is non-existant. If it is to be located near Grand Forks, then the problem of finding a suitable location is overwhelming considering the topography of the area. In addition, the cost of acquiring farmland in the surrounding area and the construction of the dam may be "unacceptable" by the public. These basic, yet unaddressed questions make it impossible to endorse this recommendation as the most beneficial.

4. In regard to channel modification, I offer the following: **288**

288. Concur.

a) Some aspects of channel modification may be detrimental to recreation sites in restricting access to the river. However, clearing and dredging of the channel would most definitely be helpful in regard to increasing the river's capacity, as well as improving canoeing and other water activity possibilities. Therefore, I disagree that all aspects of this alternative would be detrimental to the recreation sites.

5. In regard to the conclusions of the evaluation, I offer the following: **289**

289. Concur.

a) Based on the above concerns regarding the reservoir storage alternative, I cannot agree with the recommendation that this would benefit the area's recreation to the greatest extent of all alternatives. There are too many specific questions which have not been addressed and too many probabilities that the entire concept is economically and environmentally infeasible, as well as socially unacceptable.

b) The remainder of the conclusions very accurately depict the advantages and disadvantages as seen by our office, the Grand Forks Park District and the general public of the area.

Again, I appreciate your acceptance of these comments at this late date.

Sincerely,

Kathy Rude

Kathy Rude
Project Officer

KR/rkb

cc: Steve Mullally

CITY OF GRAND FORKS

GRAND FORKS, NORTH DAKOTA 58201

OFFICE OF MAYOR

March 29, 1978

Colonel Forrest T. Gay III
District Engineer
St. Paul District
U.S. Army Corps of Engineers
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Colonel Gay:

The Corps of Engineers and the City of Grand Forks, North Dakota and East Grand Forks, Minnesota are in the process of developing an Urban Water Resource Study. This project was started as a result of congressional action in August 1974. At the time we developed a plan of study which showed the Grand Forks area would receive a detailed study on the problems of water supply, wastewater management, flood plain management and Grand Forks Urban Drainage System.

I am enclosing page 46, F8 and F9 from the Plan of Study showing that the Plan of Study was approved as above. The study was a three stage program: Stage I - Identification of Study Area; Stage II - Problem Identification and Stage III - Final Draft Report. On March 23, 1978 we met with the Corps of Engineers regarding the draft of the proposed study for the three stages.

See amended draft, you will note that under Item Five, Grand Forks Urban Drainage System, the amended draft eliminated any further work on the urban drainage plan. This we feel is our concern. The 5a Detailed Master Plan for storm water drainage in the undeveloped area of Grand Forks should be retained as proposed, or incorporated under Wastewater Item I6. It can be done either way, but we would expect to get a Detailed Master Plan as promised. If not, we feel that the Corps of Engineers is backing out of the agreement with us under the scope of work. We are very unhappy about being hustled around at this late date when we are in the process of preparing a final report of the Urban Water Resource Study. We would appreciate anything that you can do to get this item reinstated.

Very truly yours,

Mayor C. P. O'Neill

CPO/ch

cc: Frank B. Orthmeyer, Director of Public Works
Martin [illegible], Corps of Engineers, St. Paul Office
Jon [illegible] for Milton Young
[illegible]

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ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

290. Funding was only temporarily removed, and an urban drainage plan was developed for Grand Forks.

situation, the estimated total volumes of off-channel storage needed to be allocated to each major surface water user in the study area are as follows:

	Study Year 2000 (ac-ft)	2030 (ac-ft)
Grand Forks	3,600	8,300
East Grand Forks	1,000	2,500
American Crystal Sugar	800	2,000
Burlington Industrial	100	200

If the Garrison Diversion Unit is allowed to transfer water to the Red River Basin, there will be sufficient quantities of water during the 20- and 50-year low flow periods to meet the projected water demands of surface water users in the study area without supplementing the supply from the rivers.

The construction of off-channel storage reservoirs would involve major commitments of land. Alternatively, old lake oxbows, the wastewater treatment lagoons if abandoned as part of wastewater facilities planning decisions, or expensive underground storage facilities could be used to provide storage volumes needed.

One major difficulty with off-channel storage lagoons in the study area would be the problem of winter freezing which will require specific design considerations to minimize.

Many of the subsequent alternatives involve off-channel storage in total or in part so the concept should be understood. Basically facilities are constructed to divert water from the rivers during high river flows to storage facilities. The stored water is used to supplement or replace river water as a supply source during low river flows.

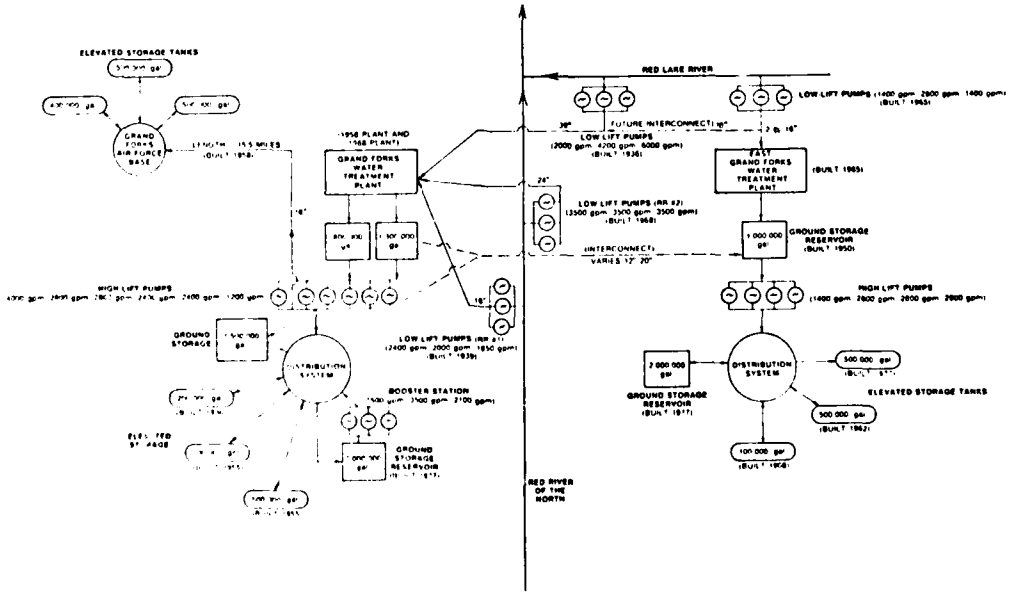
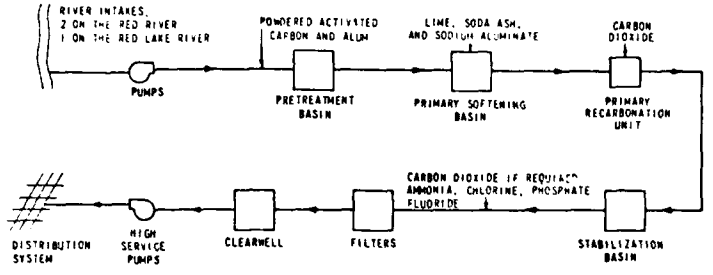
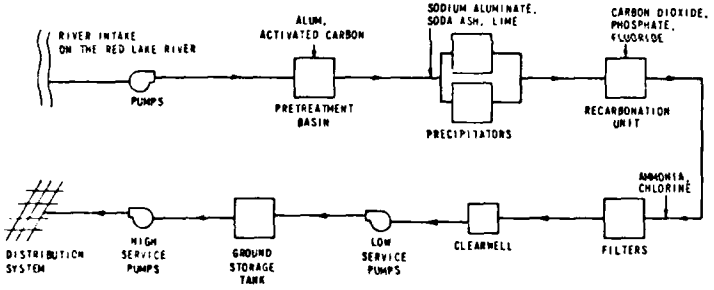


Figure 8 - Schematic of Existing Water System Facilities



a) GRAND FORKS WATER TREATMENT FLOW DIAGRAM



b) EAST GRAND FORKS WATER TREATMENT FLOW DIAGRAM

Figure 9 - Flow Diagrams of the Grand Forks and East Grand Forks Water Treatment Plants

THE PILLSBURY COMPANY
STATE MILL ROAD
P. O. BOX 459
GRAND FORKS, NORTH DAKOTA 58201

April 26, 1978

TELEPHONE: 701/775-3154

Mr. Martin R. McCleery
Corps of Engineers
1232 U. S. Post Office
180 E. Kellogg
St. Paul, MN 55101

Dear Mr. McCleery:

We have reviewed your report entitled "Grand Forks - East Grand Forks/Urban Water Resources Study" (Stage 2 Wastewater Appendix), dated December, 1977. The data presented with respect to The Pillsbury Company have led us to question the source of the data.

Tables 6 (p. 13) and 10 (p. 22) describe our plant as generating 7,530 lbs./day BOD (772 mg/L @ 1.17 MGD) with an average flow of 1.17 MGD. In addition, the data indicates that we supply 0.96 MGD of water from our wells while the City water supply contributes 0.12 MGD to our water needs. Our records show the following:

291
292

PILLSBURY WATER/WASTEWATER RECORDS

Date	Gal./Month WTP Eff. Flow	Mg/L BOD	Mg/L SS	Gal./Month City Water	Gal./Month Estimated Well Water Use
June '76				404,000	-0-
July '76				97,000	-0-
Aug. '76				132,000	-0-
Sept. '76	6,936,600	530	2,760	3,265,000	3,671,600
Oct. '76	9,625,000	838	1,333	5,876,000	3,749,000
Nov. '76	9,649,600	1,376	1,750	5,713,000	3,936,600
Dec. '76	9,575,300	1,391	2,082	6,324,000	3,251,300
Jan. '77	10,425,000	927	2,213	5,764,000	4,661,000
Feb. '77	9,007,600	302	145	5,818,000	3,189,600
Mar. '77	10,053,400	232	217	5,703,000	4,350,400
April '77	5,048,400	138	213	4,287,000	761,400
May '77				274,000	-0-
June '77				152,000	-0-
July '77				125,000	-0-
$\bar{X}$ (Process year)	8,790,113	717	1,339	5,491,750	3,446,363
$\bar{X}$ (14 mo.)	5,022,922	410	765	3,138,143	1,969,350

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

291. *Concur. Wastewater flow, BOD concentrations, and TSS concentrations* were revised.

292. Well water data for the Pillsbury Company were revised to an average of 0.15 mgd. Company records for the period from June 1976 through May 1977 indicate 0.076 mgd from company wells and 0.12 from city supplies.

As you can see the most waste flow possible would be 439,506 gpd using the average flow from the waste treatment plant (process year) and a 20 day working month. Any other combinations would result in even lower values. The total lbs./day BOD, under these circumstances, would be 2,628 lbs./day.

You will also note that our fresh water source is split approximately 50/50 between Pillsbury well water and City water not 82/18 as described in the report.

Table II (p. 24) and page 21 characterize the City domestic water as having a BOD strength of 140 mg/L. These figures appear to be the result of subtraction from all other waste sources. Since the value is so low we question whether the data was obtained from sampling and analyzing waste streams containing domestic sewage only or if other streams were included. **293**

This representation of domestic concentration may be used in the current wastewater licensing procedure, therefore, we would like to be assured that it is accurate.

We would appreciate your comments on our questions. Should you require additional information please don't hesitate to call me.

Sincerely,

Wayne E. Knudson

Wayne E. Knudson
Mgr., Quality Assurance &
Environmental Control

dkt

cc: Mr. Frank Orthmeyer
City of Grand Forks
G. B. Vernon - Pillsbury Co.
D. Paugh - Pillsbury Co.

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ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

293. The Grand Forks domestic BOD concentrations were revised to show 1976 typical loads but should not be used to characterize Grand Forks wastewater.

Environmental Control

DIVISION OF WATER SUPPLY AND POLLUTION CONTROL

NORMAN J. PETERSON P.E.
Director
(701) 224-2354

North Dakota State

Department of Health

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

JONATHAN B. WEISBUCH M.D.
State Health Officer

W. VAN HEUVELEN P.E.
Chief
Environmental Control

May 12, 1978

Grand Forks/East Grand Forks
Urban Water Resources Study
Corps of Engineers
St. Paul District
1135 US Post Office and Customhouse
St. Paul, Minnesota 55101

Attention: Mr. J. R. Calton, Chief
Planning Branch, Engineering Division

Gentlemen:

The first draft of the Scope of Work for the Stage III Water Supply Study of the Grand Forks/East Grand Forks Urban Water Resources Study has been reviewed by this Department and the following comment is offered:

The use of carbon filtration as part of an advanced surface water treatment process is being questioned by National organizations. A thorough evaluation of the potential of this process to meet future water treatment needs should be included in the Scope of Work. **294**

Sincerely,

Raymond Rolshoven, PE
Assistant Director

RR:dmb

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

294. Carbon filtration was found to be unnecessary under current water quality standards but may be reassumed if standards are raised.

NORTHWEST REGIONAL DEVELOPMENT COMMISSION
425 Woodland Avenue • Crookston, Minn. 56716 • 218-281-1396

November 21, 1978

J.R. Calton, Chief
Planning Branch
Engineering Division
Corps of Engineers
St. Paul District
1135 U.S. Post Office and Custom House
St. Paul, MN 55101

RE: Grand Forks - East Grand Forks Urban Study - Leisure Time Analysis

Dear Mr. Calton:

In reviewing the above referenced document I ran across a couple items which I have problems with.

295 First of all, in the Introduction as well as the Purpose and Scope sections you allude to the development of an Urban Water Resources Study which is consistent with "comprehensive regional development goals." It is suggested that these goals be included so the reader is aware of the pretext upon which your study is founded. I am also curious as to who undertook the formulation of the "comprehensive regional development goals" and when this occurred.

295. Text revised to reflect national goals and local needs.

296 In reference to page 21, the Northwest Regional Development Commission's numerical designation is Region "1" not "7". Also, for your information, cross country skiing (ski touring) should be investigated for inclusion on your listing of needed facilities. A good deal of interest has surfaced recently in the Crookston area, as such it follows that interest in this type of activity is higher than your projections indicate.

296. Concur. Correction made in final draft.

297 Thirdly, in response to your matrix on page 26, the statement in the far right column is not correct. I'm not sure what the source of your comment was, but I do not recall an inquiry from the authors in this regard. Granted to date we have had only minimal involvement with the local governments making up your study area, but that in no way suggests that we have not engaged in recreation planning relative to the remainder of our seven county jurisdiction. A synopsis of the Commission's most recent undertaking associated with regional recreation potential is enclosed, as this material may effect your analysis. I have also enclosed adopted Commission policy which relates to recreation potential within the seven county area.

297. Revision made to reflect NWRDC involvement in recreation.

And finally, I would like to see much more emphasis placed on outdoor recreation which is passive in nature (i.e. interpretation of landforms, wildlife, human settlement, agriculture etc.). Active recreation has its place but passive activities are equally important. **298**

Sincerely,

Randall Johnson
Regional Planner

Enclosures

cd

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

298. Interpretation of land forms, wildlife, etc., is discussed in the Background Information Appendix.

September 14, 1979

Mr. Tom Rastner
U.S. Army Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

Dear Tom,

The following are our ideas on the proposed scope of work for the proposed East Grand Forks flood fighting document that you intend to have prepared as part of the Grand Forks-East Grand Forks Urban Studies Program.

We feel this document should provide a basis for planning, organizing and fighting floods of the magnitude East Grand Forks has experienced within the past fifteen years. This could be done by documenting the procedures used during the last two floods for organizing public agencies and private resources into an effective flood fighting team. **299**

299. Concur.

A complete engineering analysis should also be included in the document. This analysis should be guided by flood gage reading and would document the river stage for all dike closures and securing all City utility systems. It should include top of dike profiles which would allow updating for changes and possible dike routes through areas that are unprotected at this time. **300**

300. Concur.

I am sure that you have other things that you would like included and as the study developes, many other needs may have to be addressed. However, at this time I feel the primary requirement of the study is to document what has been accomplished in flood fighting in East Grand Forks the last two years so that in future floods the ability to handle the situation will remain even though the people directing the operation will change. **301**

301. Comment noted.

If I can be of any further service, please call.

Respectfully yours,
Floan-Sanders, Inc.

Gary Sanders, P.E.

October 1n, 1979

Mr. David J. Haumersen
Acting Chief, Planning Branch
Engineering Division
Department of the Army
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

Dear Mr. Haumersen:

We have reviewed the draft Scope of Work for the East Grand Forks Flood Emergency Plan of Action. We feel that the results should represent the type of plan that would be an asset for the people of East Grand Forks in future flood emergencies. Therefore, we do concur in this plan of study.

302

Respectfully yours,
Floan-Sanders, Inc.

Gary Sanders, P.E.

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ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

302. Comment noted.

RONALD D AFFELDT

STATE HEADQUARTERS
Disaster Emergency Services
Box 1817
Bismarck, North Dakota 58505
Area Code 701-224-2111

ARTHUR A. LINK
Governor
MAJ. GEN. C. EMERSON MURRY
Adjutant General

06 November 1979

Mr. J. R. Calton
Chief, Planning Branch, Engineering Division
St. Paul District, Corps of Engineers
1135 U. S. Post Office and Custom House
St. Paul, Minnesota 55101

Dear Mr. Calton:

I have reviewed the draft copy of the Stage 3 Water Supply Report for the Grand Forks - East Grand Forks Urban Water Resources Study with especial concentration on Section 12 (Drought Action Plan).

I recommend that page 170 and Figure 34 of the draft be changed as indicated by enclosures (1) and (2) to correctly reflect the functions of this office and the recent change from the Federal Disaster Assistance Administration (FDAA) to the Federal Emergency Management Agency (FEMA). **303**

Sincerely,

RONALD D. AFFELDT
State Director

Encl: (1) Redraft Page 170
(2) Redraft Figure 34

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

303. Concur. Revisions made to reflect comment.

3. Administer Disaster Response and Recovery Programs under Public Law 93-288 (Federal Disaster Relief Act of 1974).
4. Advises and makes recommendations to the Governor that he:
   a. Petition the Corps of Engineers to make emergency releases from their reservoirs.
   b. Request involvement of state agencies and obtain their assistance as needed. These agencies include, but are not limited to the following:
      State Water Commission
      Department of Health
      National Guard
   c. Appoint an "on-site" coordinator and assessment team composed of representatives from various state agencies. This team assesses drought conditions and directs use of state resources.
   d. Request a Presidential declaration of a major disaster or an emergency when the drought condition becomes severe enough, so the Federal Emergency Management Agency (FEMA) can become involved.
   e. Promote legislation which may be needed to mitigate drought conditions.
5. Coordinate the assistance and aid provided by state and federal agencies directly to the affected area such as manpower, supplies, equipment and technical assistance.
6. Implement the procedures outlined in the "North Dakota: Disaster Procedure Handbook I"[64] and "North Dakota: Disaster Plan."[65]

The North Dakota State Water Commission is responsible for managing the state's waters and administering state policies

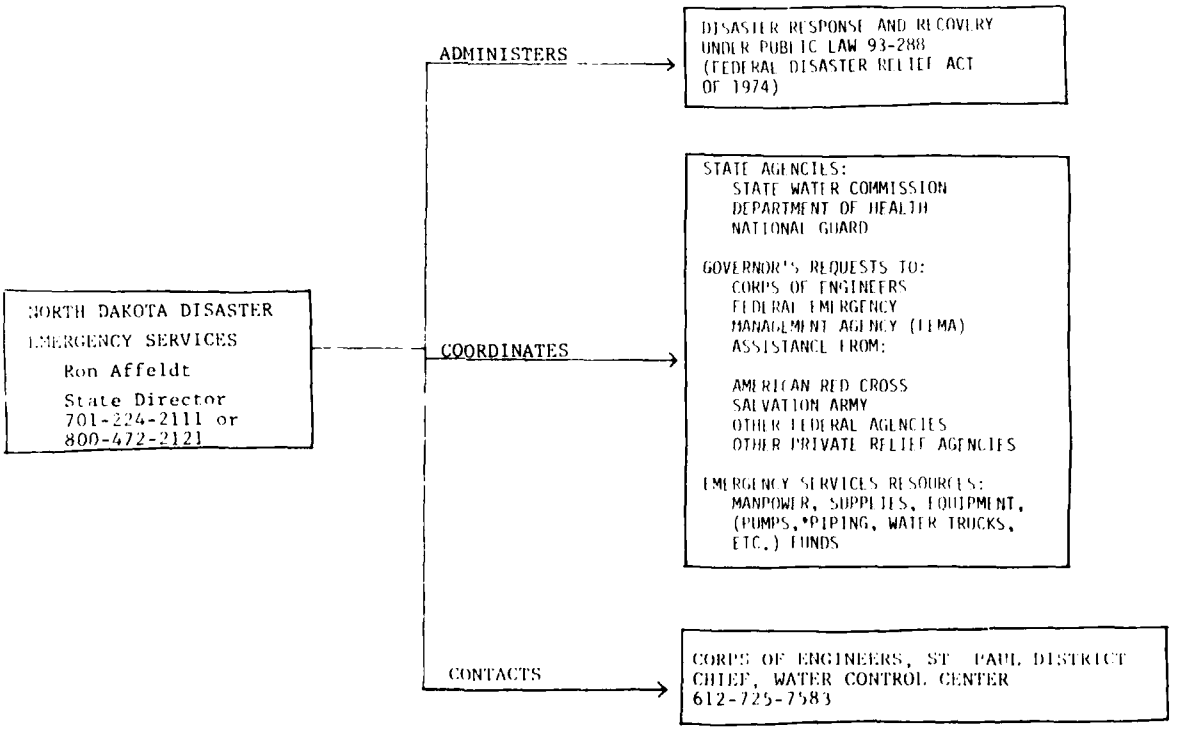

FIGURE 34 -- DROUGHT ACTION ORGANIZATION CHART (REDRAFT PROPOSAL) Enclosure (2)

SWC NORTH DAKOTA
STATE WATER COMMISSION
900 east boulevard bismarck 58505
701-224-2750 north dakota

November 7, 1979

Mr. J. R. Calton
Chief Planning Branch
Engineering Division
U.S. Army Corps of Engineers
St. Paul District
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

RE: Grand Forks Water Supply Study - SWC #1536 & #1655

Dear Mr. Calton:

This office has reviewed the first draft of the Stage Three Water Supply Report for the Grand Forks-East Grand Forks urban water resources study. I would like to take this opportunity to comment on certain sections of the report.

Section 4, Water Supply Source Alternatives, addresses various sources of water for the two cities. On page 29, an analyses is provided on the frequency of the dry periods during the 1930's. I would disagree with the statement that the extreme events during the 1930's have a recurrence frequency of only 67.0 to 68.2 years. I would agree with the discussion given by the Corps personnel indicating that a longer recurrence frequency should be assigned to these events. Since only a 47 year period of record was analyzed, the dry period from 1930-1936 may be the driest period for the years analyzed, but if a longer record were available, I'm sure that you would find that period to be the driest period for possibly up to 500 years. I would be inclined to assign a reoccurence interval in excess of 200 years to this period. **304**

On page 39, the Garrison Diversion Project is outlined. The statement is made that the current recommended Garrison Diversion Project includes only 96,300 acres of irrigation. It should be stated that the project is currently under litigation and a final decision has not been made to construct the project to supply water to only 96,300 acres. The State of North Dakota is continuing to work for the full Garrison Diversion Project as authorized. This would include Phase I of the project which would include 250,000 acres of irrigation. **305**

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

304. Comment noted.

305. Text revised in the stage 3 Water Supply Study Final Report to reflect the controversy surrounding the Garrison Diversion and to reflect 250,000 acres of irrigation.

Section 6 addresses water storage and transmission. On page 87, the statement is made that the North Dakota State Water Commission placed a new concrete cover over the structure during 1978. This is not true. In 1978 the only repair work done consisted of grouting the voids within the dam and constructing a new concrete apron on the downstream side of the dam. Attached you will find a copy of the project maintenance history taken from a recent inspection report. It was during 1957 and 1958 that a concrete cover was poured over the structure. **306**

The State Water Commission has entered into an investigation agreement with the City of Grand Forks to determine the preliminary design and cost for a new dam to replace the existing Riverside Park Dam. This agreement was entered into in September, 1977. At this time, the completion date for the investigation has not been determined, although I would expect by 1981 the report would be available. You may wish to add this information to Section 6. **307**

Section 7 deals with institutional analysis. On page 96a, Table 24, an existing capability of the State Water Commission is shown to be property acquisition. Although the State Water Commission can acquire property for projects, this has not been the general policy over the past years. When projects are proposed for construction, it is the responsibility of the local project sponsor to acquire whatever property or land is necessary. **308**

On page 104, the statement is made that consideration must also be given to the existing water right which each entity has received through state permit systems. The statement goes on to say that the North Dakota State Water Commission did not express much concern over East Grand Forks using waters of North Dakota, and that the Minnesota Department of Natural Resources has expressed some reservations over allowing any additional Minnesota water to be used in North Dakota. To my knowledge, the flows in the Red River of the North have never been quantified to the extent that a certain percentage would be Minnesota water and the remaining portion North Dakota water. I believe it is of utmost importance that future requests for large withdrawals of water be analyzed and reviewed to determine what impact the withdrawals would have on the Red River as a whole, and not try to define Minnesota and North Dakota water. If East Grand Forks were to apply to the Minnesota Department of Natural Resources for a very large appropriation of water from the Red River, the North Dakota State Water Commission would be very much concerned, since the Red River has been known to be water-short during some years. Care will have to be taken in issuing future water permits. **309**

On page 140 of Section 10, Evaluation, the statement is made that Garrison Diversion water supplementing the Red River of the North streamflow is not required. I disagree with this statement, since other **310**

306. Text revised to reflect information supplied in this comment.

307. Concur.

308. Information included in the stage 3 Water Supply Study Final Report.

309. Text revised in the stage 3 Water Supply Study Final Report to reduce the impression of interstate territoriality of the Red River.

310. Our analysis indicated that the Garrison Diversion was not required to meet Grand Forks-East Grand Forks water supply needs up to the 50-year design event. Although the Garrison Diversion would be beneficial in a 1930's type drought, designing to this 200 + - year event would not be cost effective.

sections of the report outline a drought action plan for Grand Forks-East Grand Forks. If there were a recurrence of the extreme dry period of the 1930's, Garrison Diversion would serve very well to supplement the streamflow in the Red River. For that matter, if the drought action plan were to be implemented, the Garrison Diversion Project would serve very well to meet water demands during any drought. Page 140 should be clarified so that the statement does not imply that Garrison Diversion water would not be beneficial to the Red River under all conditions.

If you have any questions or comments, please contact David A. Sprynczynatyk or Bill Hanson with this office.

Sincerely yours,

David A. Sprynczynatyk

Vern Fahy
State Engineer

VF:DAS:sh
Encl.

During October and November, 1960, Grand Forks Riverside Park Dam was again in need of repair. The exact nature of the repairs could not be determined from information on file.

In the summer of 1963, gunite began to spall from the wood pile abutment wall on the Minnesota side of the dam. Repair plans indicated the need for placing pneumatically applied concrete six inches thick over an area approximately 12 feet by 30 feet long. The gunite was tied to the wall with ½-inch rebar, extending from bottom to the top with 90° bends at the top and extending back for at least four feet. Encased in gunite, the repair provided for a "hanging" wall, designed to remain in place, even though no bond was required between the gunite and wood sheeting. Repair work was completed in the fall of 1963.

After the repair job in 1963, little or no structural damage was reported until the summer of 1975. Extensive rainfall across southeastern North Dakota and portions of eastern Minnesota produced a record flow of 42,800 cfs at Grand Forks on July 14, 1975. Sometime after the July flood had receded, several inspections of the structure revealed evidence of some seepage and water bypassing the south abutment wall. Repair consisted of grouting both wing walls. Construction began on August 2, 1976 and was completed on August 19, 1976.

5.3. Present Maintenance History (1977-1379). In 1977 several inspections were conducted in response to apparent structural failures or discrepancies reported by city and government officials.

The first noticeable discrepancy detected at the dam site was the relatively large numerical difference in measured flows going over the dam weir and flows determined at a gauging station downstream from the structure. On June 24,1977, the State Water Commission was advised by the United States Geological Survey that approximately 200 cfs was either flowing through, beneath or bypassing the structure, while 70 cfs was going over the structure. Total flow was 270 cfs measured at the downstream gauging station.

Inspections of the structure were made on May 24, 1977 and June 24, 1977. Based on these inspections and recorded flow measurements, it was apparent the structure was leaking badly either because of (1) large cavities within the structure due to deterioration in the old timber crib foundation or (2) cavitation under and around the abutment walls or a combination of both.

Prompted by the seriousness of the situation, the city of Grand Forks immediately placed an earthen fill along the upstream side of the weir and requested the State Water Commission to proceed immediately with engineering investigations and preparations of preliminary plans and cost estimates for a new lowhead channel dam.

In view of the condition of the existing structure and the time element required to investigate and implement plans for a new dam, it was felt that the old structure should be repaired now with the idea that a new structure will be built at a latter date.

The State Water Commission engaged the services of Prepakt Concrete Company, Minneapolis, Minnesota; a subsidiary to Intrusion-Prepakt, Incorporate Cleveland, Ohio. Intrusion-Prepakt specializes in the construction and maintenance of heavy concrete and fundations.

3.6. Weir Structure. Riverside Park Dam is an old rock-filled timber crib structure which has been overlayed with a concrete cap. The weir is 185 feet long, 15 feet wide and 13 feet high. The upstream face of the dam consists of vertical wood piling and the downstream slope is approximately 1 on 1½.

4. CONSTRUCTION HISTORY

Riverside Park Dam was built in 1925 at an approximate cost of $75,700. It was constructed as a rock-filled timber crib structure. The dam provided partial storage for water supply for the city of Grand Forks with the rest of the city's water needs supplied by the Red Lake River in Minnesota.

5. MAINTENANCE HISTORY

5.1. Introduction. A report of the history of Grand Forks Riverside Park Dam, from 1952 to present, was prepared by Arland Grunseth, Construction Engineer, of the State Water Commission. This report reviews past structure failures, necessary repair work, construction photos and cost reports. Portions of that report are provided, in part, as follows.

5.2. Past Maintenance History (1925-1976). There is no information documented in the North Dakota State Water Commission project file prior to the year 1952. It is stated in a letter dated December 8, 1952 that prior to 1945, major repairs and improvements amounted to approximately $38,000.

On November 25, 1952, an inspection of the dam revealed about 50 per cent of the facing material consisting of 12 inch X 12 inch X 20 foot timbers had failed and were no longer in place. Repairs on Grand Forks Riverside Dam were completed in the spring of 1953 and consisted of replacing the timber facing material.

Upon completion of major repairs to the dam in the spring of 1953, structural failures and repairs remained apparently minimal until sometime during 1955 or 1956, when several sections of the timber chute spillway washed out. The North Dakota State Water Commission's Construction crew and additional labor personnel began reconstruction of the north half (Minnesota side) of the structure in January 1957. Construction continued during the winter months, terminating in late March due to high Red River flows. Construction on the south half (North Dakota side) of the dam was delayed until the fall of 1958. With a reduction of flow and construction of an earthen cofferdam, work began in August and was completed in October. The repairs consisted of resurfacing the wooden deck and chute with concrete and rebuilding the chute in places where the timbers had washed out. Where the timbers were in place ½" reinforcing steel was placed 12" c-c both ways. A slab of 6" thick concrete was then poured over the timber. Where the timber chute was missing the void was filled with field rock, a layer of pea gravel was placed over the rock and a 9" concrete slab poured over this. The reinforcing steel consisted of 1" bars at 9" c-c running perpendicular to the center line of the dam and ½" bars 12" c-c running parallel to the center line. Also voids which were found behind the wooden piling wing walls were pressure grouted and a layer of pnuematic concrete placed over the slab and the wooden piling.

Mr. Ron H. S. Makredes, District Manager of Prepakt Concrete Company, submitted to the State Water Commission the following restoration work plan: (1) intrusion grouting of void areas along toe of dam and (2) drill and grout along the crest of dam on approximately ten foot centers. During the intrusion grouting the State Water Commission reconstructed a new downstream concrete apron. This construction work began on August 21, 1978 and was finished on December 7, 1978.

6. OPERATION AND MAINTENANCE PROCEDURES.

There is no water control, emengency, or flood warning system for the project. Water is constantly overflowing the weir crest.

7. INSPECTION

Repair work of Grand Forks Riverside Park Dam was in progress at the time of the inspection. The repair work consisted of installing a new apron and grouting the hollow area in the weir section, as can be seen in Photo No.'s 3, 4, 5, & 6. The cofferdam built for the repair work allowed for a detailed inspection of the crest, downstream slope, and new apron on the south half of the dam. The crest, downstream slope, and new apron will be discussed below.

7.1. Crest. A detailed inspection of the crest which was not flowing with water, revealed no deficiencies as shown in Photo No's 3, 5, & 6. Flows over the north half of the weir prevented a detailed inspection of that section of the crest.

7.2. Right Abutment. Several large cracks were noted on this abutment. See Photo No.'s 6, 7, 8, & 12. It is believed that these cracks were caused by pressures from the root systems of a few large trees on this abutment. It was also noted that a section of the railing on the right abutment has been removed. See Photo No. 6.

7.3. Left Abutment. Inspection revealed no major deficiencies in the concrete in the left abutment. See Photo No. 3.

7.4. Downstream Slope. A detailed inspection of the downstream slope, which was not flowing with water, revealed no deficiencies as shown in Photo No.'s 2, 3, 4, 5, & 6.

7.5. Downstream Apron. The inspection of the 20½ foot new apron revealed no deficiencies. See Photo No.'s 3 & 6

7.6. Downstream Riprap. New riprap had been placed downstream from the end of the apron for about 23 feet and was in excellent condition. See Photo No. 3.

7.7. Downstream Area. Three small seepage areas were noted during the inspection. Two seepage areas are located on the left bank, one about 850 feet downstream and the other about 900 feet downstream of the dam. These were only wet and it is believed the seepage came from the town area. A seepage area about 250 to 300 feet downstream on the right bank was only damp.

Environmental Control

DIVISION OF WATER SUPPLY
AND POLLUTION CONTROL

NORMAN L. PETERSON, P.E.
Director
(701) 224-2354

North Dakota State

Department of Health

Missouri Office Building
1200 Missouri Avenue
Bismarck, North Dakota 58505

Gene A. Christianson, P.E.
Chief
Environmental Control

December 4, 1979

Department of the Army
St. Paul District, Corps of Engineers
1135 US Post Office and Custom House
St. Paul, Minnesota 55101

Gentlemen:

This Department has reviewed the Grand Forks combined sewer analysis draft report and we have the following comments:

1. A cost breakdown showing the estimated quantity of materials and respective unit price should be develcped for each alternative. **311**

2. The hydrologic and hydraulic analysis used to determine present storm sewer capacities, required capacity of new storm sewer, and quantities of existing overflow, should be presented in more detail. **312**

Sincerely,

Jeffrey Hauge
Environmental Engineer

JH:dmb

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ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

311. A unit cost breakdown was added for alternatives 1, 2, and 3. Alternative 4 is a combination of 1 and 2. Alternatives 5 to 9 involve mainly construction costs and do not lend themselves as well to material cost breakdowns.

312. Comment noted.

CITY OF GRAND FORKS

BOX 1518
GRAND FORKS, NORTH DAKOTA 58201

DIRECTOR OF PUBLIC WORKS

(701) 775-8103

December 5, 1979

Mr. Tom Raster
Corps of Engineers
1135 U. S. Post Office and Custom House
St. Paul, Minnesota 55101

Re: Draft of Studies Presented on November 28 and 29, 1979

Dear Mr. Raster:

I feel that the water supply study speaks for itself with the exception that it is my recommendation that further study be given to the proposed location of the joint water plant after the Year 2005. It is my recommendation that the plant be located probably between the Red Lake River and the Red River at a site in Minnesota either by expanding the plant or by constructing a new one at that site. **313**

As to the wastewater study, I would like to reiterate that the computations for the unit prices, including the sizes, be attached as an appendix to the wastewater study. **314**

On the flood control study, I would appreciate it if you would have the consultant spend more time on this study, expanding it to include recommendations that may be done by the City and in an effort to give the City some flood protection. I am enclosing a map showing where I feel more studies should be done regarding the diking of the Red River. **315**

Yours very truly,

Frank B. Orthmeyer
Director of Public Works

FBO/ch

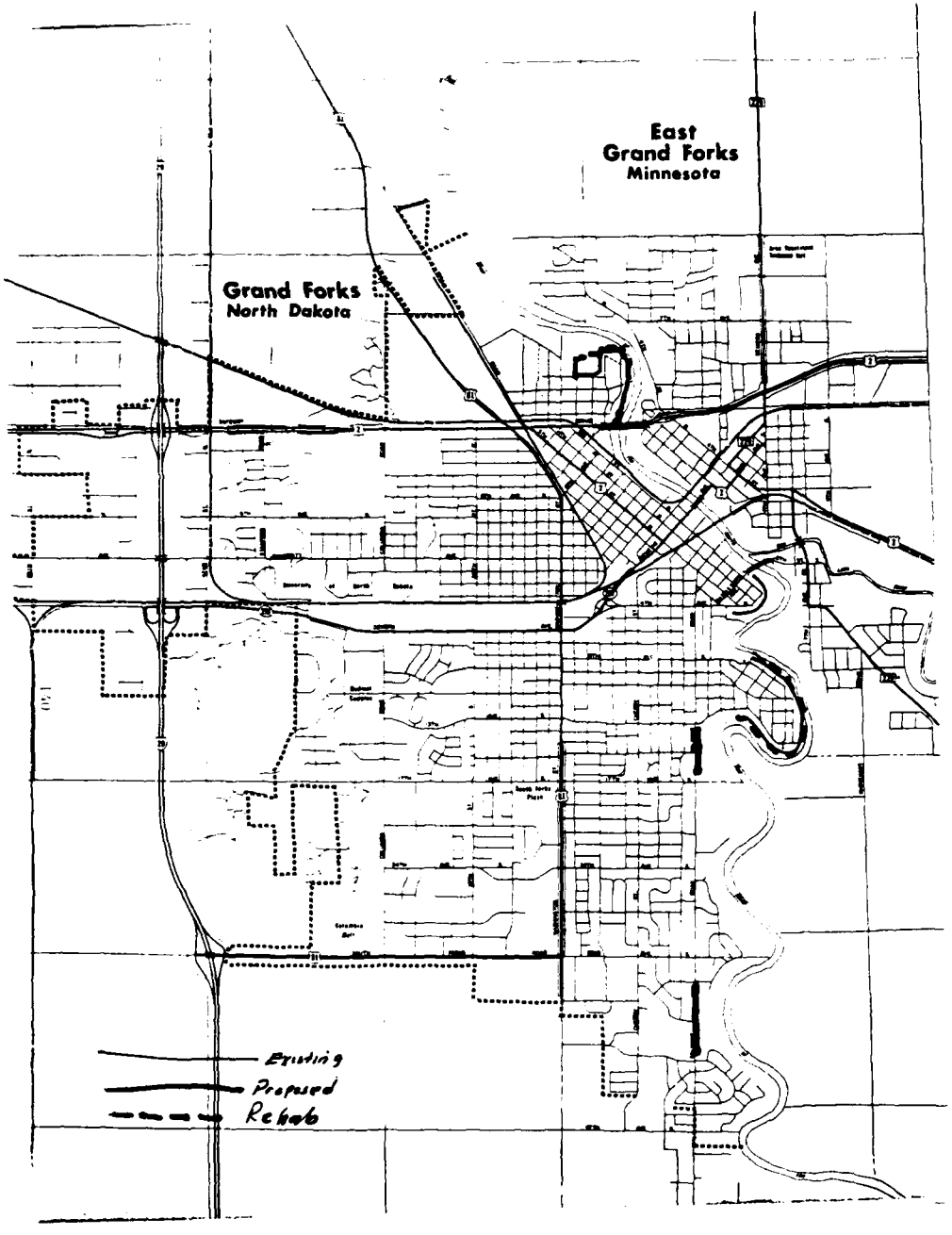
Enclosure

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

313. Final recommendation calls for a new plant between the Red River and the Red Lake River to draw water from both.

314. See response 308.

315. The scope of work was expanded in stage 3.


East
Grand Forks
Minnesota
Grand Forks
North Dakota
Existing
Proposed
Rehab

United States Department of the Interior
FISH AND WILDLIFE SERVICE
AREA OFFICE—NORTH DAKOTA
1500 CAPITOL AVENUE
P.O. BOX 1897
BISMARCK, NORTH DAKOTA 58501

Colonel William W. Badger, District Engineer
St. Paul District, Corps of Engineers
1135 U. S. Post Office & Custom House
St. Paul, Minnesota 55101

Dear Colonel Badger:

This letter conveys our preliminary comments on the Stage 3 Flood Plain Management, Water Supply and Wastewater Draft Reports for the Grand Forks-East Grand Forks Urban Water Resources Study. Our comments are based on review of the reports and information presented at meetings held in Grand Forks on November 28 and 29, 1979. Due to the preliminary nature of the Stage 3 Reports, our conclusions at this time do not necessarily reflect the official position of the U. S. Fish and Wildlife Service within the meaning of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). A formal Coordination Act Report will be issued by May 1, 1980, in accordance with the project scope of work if it is determined that a more detailed report would serve a useful purpose at that time.

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Flood Plain Management Study

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The feasibility of providing permanent flood protection for East Grand Forks has been deleted from the current study and is being studied by the Corps under a reactivated existing authority. The authorization which resulted in construction of the Lincoln Park levee in Grand Forks in 1958, also authorized a levee in East Grand Forks. Because the city was unable to provide assurances of local financial cooperation, that part of the project was deauthorized. A reassessment of the once authorized plan and other flood protection alternatives for East Grand Forks has been initiated in fiscal year 1980 under the existing Corps authority. By copy of this letter we are notifying our Twin Cities Area Office that they should arrange to evaluate the potential impact of permanent flood works for East Grand Forks directly with your office under the appropriate authority.

For the purpose of formulating and evaluating flood protection measures for Grand Forks, the city was divided into six reaches. The technical, economic, environmental and institutional feasibility, and social acceptability of the following selected measures have been analyzed during Stage 3 studies.

ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

316. Comment and review noted.

Reach 1 - Combined floodproofing and evacuation

Reach 2 - Raise existing Corps-constructed levees to a 100-year level of protection

Reach 5 - Modifications to the flood barrier alignment previously considered in Stage 2 studies

Reach 6 - Combined floodproofing and evacuation and English Coulee Closure Structure

Entire Study Area - Grand Marais Coulee Diversion

With the possible exception of combined floodproofing and evacuation in Reach 6, the preliminary findings of the Stage 3 studies indicate that none of the above measures would provide both technically sound and economically justified solutions to flooding problems. The studies indicate that combined floodproofing and evacuation in Reach 6 would have a marginally favorable benefit-cost relationship contingent upon two factors:

That an effective temporary closure across DeMers Avenue at the north end of the 30th Street road raise would be provided during major flood periods.

That temporary pumping of interior runoff from the area protected by the 30th Street road raise would be an acceptable measure.

We understand that even with a favorable assumption regarding these two contingencies, rising interest rates would likely result in economic infeasibility of floodproofing and evacuation in Reach 6 before Congress would have time to consider these measures as a federally-funded project.

Another measure considered for Reach 6 involves installation of an operable closure structure across English Coulee to prevent floodwater from the Red River from backing up into the urbanized reach of the coulee. For the closure alternative to be technically feasible, a flood detention dam and diversion works presently being considered by the Soil Conservation Service (SCS) in the upper reaches of the watershed would have to be in operation. However, even with the upstream SCS measures, the considered coulee closure would be economically unjustified.

The one measure considered that would provide a degree of flood protection for the entire Grand Forks-East Grand Forks area involves diversion of a maximum of 50 percent of the peak 100-year Red Lake River flood flow in excess of the 13,000 cfs flow (11,500 cfs) into Grand Marais Coulee about 4 miles downstream of Fisher, Minnesota. That portion of the Red Lake River flood flow diverted to Grand Marais Coulee would then enter the Red River 10 miles downstream of Grand Forks-East Grand Forks instead of directly into the urban area as it now does. In addition to the

diversion structure, major channelization would be required downstream from the point of diversion. Present channel capacity of the coulee is about 2950 cfs. To pass the maximum diversion of 11,500 cfs plus the 100-year flow from the coulee drainage area would require a 200-foot bottom width channel with numerous cutoffs. One railroad bridge and 12 highway bridges would have to be replaced. Not considering the massive environmental costs, this alternative would clearly be economically unjustified as indicated by a 0.2 benefit-cost ratio.

Since none of the flood protection alternatives appear to be economically justified as federally-funded projects, there is no justification for detailed analyses of potential impacts on fish and wildlife resources. Based on available information we conclude that implementation of the floodproofing and evacuation and levee-flood barrier modifications proposed for Reaches 1, 2, 5 and 6 would have only very minor long-term adverse environmental impacts.

These minor impacts would accrue to developed residential and commercial areas. The closure structure on English Coulee would be located in a developed area devoid of trees and shrubs and would, therefore, not cause a significant environmental impact.

The SCS measures necessary to make the English Coulee closure technically feasible, have been studied by the Fish and Wildlife Service during the course of our regular coordination with the SCS. Our preliminary conclusion regarding the detention dam on English Coulee is that the infrequent flooding caused by the dam would have little impact on wildlife resources. Construction of channels through the detention site and beyond could change land use, drain wetlands and cause erosion problems. Coordination with the SCS on this project will be maintained. Appropriate recommendations, as necessary, will be made to that agency to prevent or mitigate potential adverse environmental impacts.

Because of the exceptionally high wildlife values associated with Grand Marais Coulee, diversion of the floodwater from the Red Lake River into the coulee, along with the necessary channelization, would have severe immediate and long-term adverse impacts. These impacts would be the virtually complete destruction of all the high value wetland and riparian woodland habitat and associated bird and mammal populations along the stream. Although the Grand Marais Diversion is clearly not feasible economically or environmentally as a federally-funded project, it is possible that a modified, less expensive version of the diversion plan might be undertaken by non-federal interests. In that event, the Fish and Wildlife Service would evaluate impacts and make recommendations to the Corps in connection with the permit that would be required by the Clean Water Act, as amended. Depending upon the results of our evaluation, the minimum recommendation we would make would be one calculated to compensate for all wildlife habitat damges. Opposition to issuance of a permit by the Corps to construct such a project would be a distinct possibility.

The Fish and Wildlife Service would also have the opportunity to review potential impacts of any of the other alternatives that may be attempted as non-federal projects, and which would fall under the Corps regulatory jurisdiction. As previously stated, however, the impacts of the other alternatives, if built as now planned, are expected to be minor.

Water Supply Study

This report develops plans for providing adequate quantity and quality of water supply for the urban area. Alternative supplies of water evaluated include:

1. Red River of the North and Red Lake River including in-channel and/or off-channel storage reservoirs.
2. Elk Valley Aquifer.
3. Beach Ridge Aquifer.
4. Garrison Diversion Unit.
5. Conservation Measures.

The report concluded that the existing surface water supply in the Red River and Red Lake River is adequate to meet the needs of the Grand Forks-East Grand Forks area through the year 2030 without additional off-channel storage. Implementaion of water conservation measures would extend the life of water supplies and also extend the design life of water storage, treatment and distribution systems.

The Elk Valley and Beach Ridge Aquifers were found to be inadequate as water supply sources. It was concluded that the Garrison Diversion Unit could not be relied upon as a water supply source because of serious political and environmental constraints.

Since it has been concluded that the existing water supply is adequate to meet the needs of Grand Forks-East Grand Forks, and no additional development of water supply is recommended, there are no environmental impacts to consider. If a water conservation plan is implemented to reduce water demand, more water would remain in the streams during drought periods, thus improving conditions for aquatic life. The only aspect of the Water Supply Study that might involve construction and possible adverse environmental impacts would be the development of a combined water treatment and distribution system for Grand Forks-East Grand Forks, instead of refurbishing the existing systems of both cities. The new treatment plant would undoubtedly be located out of the flood plain so environmental impacts would likely be minor.

317 317. Comment and review noted.

If in the future additional water supplies are sought which require development of storage reservoirs or diversions, the Fish and Wildlife Service will investigate the fish and wildlife aspects of the projects through coordination with the appropriate agency. A fish and wildlife mitigation plan has already been developed for the Garrison Diversion Unit as it is now constituted. If this project is completed and additional water is sought for Grand Forks-East Grand Forks from this source, we would evaluate the additional environmental impacts this development would cause, and make necessary recommendations to the Water and Power Resources Service.

Wastewater Study **318**

About 850 acres of Grand Forks is presently served by a combined storm and sanitary sewer system. During normal conditions, wastewater consisting primarily of domestic wastes is collected by the combined system and pumped to the treatment lagoons. After heavy rainfall, pump station capacities are exceeded, and combined sewer overflows are discharged directly to the Red River. These overflows introduce large quantities of pollutants to the river. The pollutants seriously degrade the water quality of the Red River by increasing BOD, fecal coliform, total suspended solid, floatables, nutrient, and grease and oil levels beyond acceptable concentrations.

The NPDES permit issued to the City of Grand Forks has prohibited the combined sewer discharges, and specified a schedule for elimination of the overflows. As a condition of the permit, the city is required to submit a report to the State of North Dakota and EPA, detailing the problem and possible solutions. The subject Wastewater Study Report serves that purpose.

The recommended plan for Grand Forks is to provide separated storm and sanitary sewers in the existing combined sewer area.

Although there would be minor short-term adverse environmental impacts associated with construction during sewer separation, the long-term environmental effect would be highly beneficial. Water quality of the river would be substantially improved since all of the sanitary wastes would be treated. One possible negative aspect of the sewer separation on water quality could be an increase in suspended solids, because storm sewer water would no longer be treated. Nevertheless, the overall effect of sewer separation would be a considerable improvement in the quality of water in the Red River, which would in turn create more favorable conditions for fish and other aquatic life.

318. Comment and review noted.

The opportunity to review and comment on preliminary plans designed to alleviate flooding, water supply and wastewater problems in the Grand Forks-East Grand Forks Urban Area is appreciated.

Sincerely yours,

ACTING Gilbert E. Key
Area Manager

United States Department of the Interior
FISH AND WILDLIFE SERVICE
AREA OFFICE—NORTH DAKOTA
1500 CAPITOL AVENUE
P.O. BOX 1897
BISMARCK, NORTH DAKOTA 58501

JAN 2 5 1980

Colonel William W. Badger, District Engineer
St. Paul District, Corps of Engineers
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

Dear Colonel Badger:

In response to a request from Mr. Kowalski, dated January 17, 1980, we have reviewed the revised Stage 3 Water Supply Draft Report for the Grand Forks-East Grand Forks Urban Water Resources Study. Our review of the revised draft report did not detect any changes that would require altering the conclusions stated in our letter of December 26, 1979, regarding the Water Supply Study.

Thank you for the opportunity to review the revised draft report.

Sincerely yours,

for Gilbert E. Key
Area Manager

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ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

319. Comment noted.

SWC NORTH DAKOTA
STATE WATER COMMISSION
900 east boulevard bismarck 58505
701-224-2750 north dakota

February 13, 1980

Louis E. Kowalski
Chief, Planning Branch, Engineering Division
U.S. Army Corps of Engineers, St. Paul District
1135 U.S. Post Office & Custom House
St. Paul, Minnesota 55101

RE: Grand Forks Water Supply Study - SWC Project #1536 & #1655

Dear Mr. Kowalski:

This office has reviewed the revised draft report for the Grand Forks-East Grand Forks Urban Water Resources Study. I would like to take this opportunity to reiterate some of the same comments that were made on the first draft of the same study. These comments were sent to you by letter dated November 7, 1979.

I want to mention once again, the fact that the State of North Dakota is currently involved in litigation regarding the size of the Garrison Diversion project. Although, the current recommended project includes only 96,300 acres of irrigation, it is hopeful that the original authorization for 250,000 acres of irrigation will become a reality. Any reference to the Garrison Diversion project should include the total phase I project which would include 250,000 acres of irrigation. Reference throughout the report to the U.S. Bureau of Reclamation should be changed to the Water and Power Resources Service. **320**

On Page 99, Table 24 still shows the State Water Commission as having the capability for property acquisition. I believe a footnote would be appropriate. It should state that it is not the policy of the State Water Commission to acquire property for projects. It is the responsibility of the local project sponsor to acquire whatever property necessary. **321**

Finally on Page 144, I would still disagree that Garrison Diversion Water would not be required to satisfy the Grand Forks-East Grand Forks Urban Area water demands. Again, I refer to a recurrence of the extreme dry period of the 1930's, during which Garrison Diversion would serve very well to supplement the water supplies for Grand Forks and East Grand Forks. **322**

Sincerely yours,

David A. Sprynczynatyk

FOR Vernon Fahy, P.E.
State Engineer

VF:DAS:dm

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ST. PAUL DISTRICT, CORPS OF ENGINEERS
DISCUSSION/RESPONSE TO COMMENTS

320. Concur. The area of irrigation was changed to 250,000 acres. References to the Bureau of Reclamation throughout the report were changed to Water and Power Resources Service.

321. Concur. Footnote was added as suggested.

322. Comment noted.


FILMED
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